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ABSTRACT

This first volume of the evaluation of the Career Teacher Program describes the background of the program, the purpose of the evaluation, a description of the evaluation methodology, the results and findings of implementing the methodology, program outcomes, and conclusions and recommendations for the program. The program was designed to improve the training of medical students concerning drug abuse and alcohol abuse by increasing the number and knowledge of academic faculty in medical schools in these areas and by developing regular courses of instruction on these major health problems, and in continuing education programs for doctors. Training grants to qualified degree-granting programs to provide an opportunity to fund medical school faculty members for further training in drug abuse and addiction were authorized by the program. In order to answer evaluation questions and test the hypotheses of the study, a data collection plan involving six different checklist instruments was developed. The activities involved: site visits to career teacher sites and training centers, a telephone survey of "career" teachers, an institutions survey of "noncareer" teachers, a trainee mail survey, and interviews with officials of the National Institute of Alcohol Abuse and Alcoholism (NIAAA) and the National Institute on Drug Abuse (NIDA). Conclusions and recommendations are presented concerning the career teacher project grantees (career teachers, sponsors, and institutions); the training centers; and the NIAAA and NIDA. (SW)

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CAREER TEACHER PROGRAM EVALUATION

FINAL REPORT

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VOLUME I
THE CAREER TEACHER PROGRAM

Contract Number: ADM 281-76-0031

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Acknowledgement

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A special note of thanks is due Ms. Patricia Reed, Technical Project Officer, Ms. Jeanne Trumble, and Mr. James Callahan, Alternate Project Officers, for their consistent interest, astute guidance, and patience during the study.

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FOREWORD

The documentation of this evaluation of the Career Teacher Program is presented in four volumes. Volume I, the primary documentation for all study activities and results, provides a background of the Career Teacher Program, the purpose of the evaluation, a description of the evaluation methodology -- including evaluation hypotheses and key evaluation questions -- the results and findings of implementing the methodology, program outcomes, and conclusions and recommendations for the Career Teacher Program.

This volume is supported by Volume II, which provides brief descriptive reports for each of the 39 Career Teacher projects reviewed and the two Training Centers, and an Executive Summary as a separate Volume III.

I. INTRODUCTION

A. Career Teacher Program Description*

1. Program Need and History

Early in 1971, individuals at both the federal alcoholism and the drug abuse institutes, aware of the impact which physicians' attitudes and practices have on the problems of alcohol and drug abuse, began to look for ways to directly reach and affect the medical community. At NIDA's forerunner agency (the Division of Narcotic Addiction and Drug Abuse, NIMH**), Dr. Richard Phillipson saw the new authorization of funds for training grants to qualified degree-granting programs as an opportunity to fund medical school faculty members for further training in drug abuse and addiction. By preparing one senior faculty member at each school to provide leadership in the drug field, the Division could potentially increase the amount of medical school curriculum and continuing education in this area.

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*The "Career Teacher" title was borrowed from a successful NIMH program of the same name which had been supporting individual psychiatrists by providing training grants.

**The Division of Narcotic Addiction and Drug Abuse (DNADA) became the National Institute on Drug Abuse in 1973, and began to assume expanded programming responsibilities.

Dr. William E. Bunney, Jr., Director of DNADA, shared the idea with the then Director of NIAAA, Dr. Morris E. Chafetz, who, with his staff, had been looking for ways to change physicians' attitudes toward alcoholism. The Career Teacher Program appeared to be one way to quickly affect medical schools, by stimulating curriculum changes and other activities through the personal development of one faculty member in each school. Moreover, by working together, the two Institutes could reach more schools, avoid any apparent or real conflict between drug and alcohol activities in the schools, and promise a degree of stability in continuing funds.

However, two issues required resolution before actual grants could be awarded: the length of the grant and the need for training centers. The public announcement initially specified a two-year award, but this was increased to three years at Dr. Chafetz's request. Two Training Centers were initially funded by DNADA to provide structured training sessions lasting from three to nine months to all Career Teachers.

Each Institute arranged to alternate funding of individual Career Teacher projects, and announcements were sent to all schools of medicine, osteopathy and public health, as well as to State Alcoholism Authorities and appropriate publications. Interested institutions were invited to apply by February 1, 1972 for the first Career Teacher and Training Center grants.

As indicated in the original guidelines,* the purpose of the program was to "provide support to every medical school and school of public health in the country for the advanced training of a faculty member who will provide leadership in the education of the professional school's students in the fields of narcotic addiction, drug abuse and alcohol abuse." The non-transferrable grant could be awarded to support "the best qualified faculty member," who was required to have full faculty status and a "health professional degree in the clinical sciences." The application was to describe the sponsoring institution, the current drug and alcohol abuse curriculum and the need for a Career Teacher, and to propose a one- to three-year plan to prepare the nominee to "design curriculum for medical and other students and provide the university and faculty with consultation in the treatment, education, prevention and research aspects of this major problem area."

When the guidelines were rewritten in December of 1974,* the program purpose was restated more specifically: "to improve the training medical students receive on drug abuse and alcohol abuse by increasing the number and knowledge of academic faculty in medical schools in these areas and by developing regular courses of instruction on these major health problems, and in continuing education programs

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*See Appendix 1.

for doctors." The grant period was increased to three years, the degree requirements were broadened to include related health professional degrees, and letters of support from the Dean and department heads were required.

2. Program Scope and Administration

NIDA (and its forerunner division within NIMH) and NIAAA have attempted to administer this program jointly from the start. To avoid the difficulties of transferring or pooling the funds, they alternate funding Career Teachers, but preparation of guidelines, review of applications, site visits and general communications have been undertaken jointly. An ad hoc review committee of alcohol and drug abuse experts was established to review the initial 20 Career Teacher applications. The committee sought to identify applicants who would fit into the "milieu" of the sponsoring school, and who had or were likely to gain respect and influence within their departments and among other faculty members. Appropriate medical school support and sponsorship of the Career Teacher were emphasized, as was the proposed self-training program.

Eight Career Teachers were selected from this first group,* and in January of the next year, each of the Institutes funded another applicant, bringing the total for the program's first year to nine Career Teachers at approximately $40,000 each per year (including salary, travel, part-time secretary, supplies and other costs). During the first

*Seven accepted the grant.

year, DNADA also awarded approximately $100,000 to each of two Training Centers -- Baylor College of Medicine, funded in September, 1972, and the SUNY Downstate Medical Center, funded in March, 1973.

The only substantial change in program administration has been in the review process. The joint ad hoc review group established in 1972 was phased out in 1974, and review is now done by the chartered training review committees at each Institute. Site visits, when conducted, usually include staff from both Institutes, and all applications are reviewed by both committees. The decision to approve or disapprove an application remains with the Institute designated by the NIH Division of Research Grants. With experience has come a refinement in the review. Reviewers now emphasize: (1) the nominee's professional background and training; (2) current status of alcohol and drug abuse curriculum at the school; (3) the individual training plan proposed; and (4) indications from the nominee's statement and letters of support that this individual will be able to make an immediate and long-term impact on the school and the field.

To date, 42* medical schools have received Career Teacher grants, and publicity about the program continues in appropriate publications and through relevant professional associations. Interest in the program is increasing, as evidenced by the increased number of grant applications

*Three were awarded following award of this contract, and are not included in the evaluation.

being submitted, and the roles of the Training Centers continue to change in response to changing Career Teacher needs.

B. Career Teacher Evaluation Contract

1. RFP Issuance

A Request for Proposal for the evaluation of the Career Teacher Program was issued in August, 1976. Its stated objectives were to provide:

> "... 1) an assessment of a) the extent to which Career Teachers and Training Center Medical Schools have developed or expanded courses, research, clinical services and consultation to the medical and health care community and to other professional schools or departments in matters relating to the problems of alcohol and drug use; b) the degree to which the Career Teacher Training Centers have carried out or failed to carry out their roles of providing training and resource support to Career Teachers and the medical and health care community; and 2) the collection of all products developed to date: curricula, publications, audio-visuals, etc."

In addition, the evaluation was to generate the information necessary to "assist the Institutes in determining the effectiveness of this program in meeting a significant and unmet need in physician education," and provide policy recommendations addressing "modifications" in the Career Teacher Program.

The RFP was issued by NIAAA, but an Alternate Project Officer at NIDA was identified, and the contractor was expected to maintain

"close liaison" with both NIAAA and NIDA personnel throughout the contract period.

CONSAD Research Corporation was awarded the Career Teacher evaluation contract in September, 1976.

2. Scope of the Evaluation

The RFP called for a combination of evaluative, descriptive, and cataloging activities, to generate not only conclusions and recommendations about program effectiveness, but also descriptions of the individual projects and of the tangible "products" of the program. Specifically, the contract called for:

- A detailed examination of program guidelines, instructions, and grant files;
- Preparation of a descriptive report on the origins and growth of the program, based on document review and interviews with Institute personnel and Career Teacher project and Training Center officials;
- Collection of Career Teacher "products", including curriculum materials, publications, audio-visuals, presentations at professional meetings, Career Teacher conference products and reports, etc., and development of: (1) an index of all products, and (2) a catalog, with abstracts, of curriculum materials and other products which may be useful to others in the substance abuse field;
- Descriptive reports on each of the 39 Career Teacher grants and on the two Career Teacher Training Centers;
- Information on the number and types of people trained by the Career Teachers and Training Centers;

- An evaluation of the effectiveness of the Career Teacher Program, including effects on Career Teachers, sponsors, sponsoring institutions, medical students, the professional community, and the broader community. Emphasis was to be placed upon Career Teacher accomplishments in developing or expanding medical school curriculum and courses, research, clinical services, and consultation in substance abuse. The study was also to determine the status of former grantees and their ongoing contributions in the substance abuse field;

- Development of policy recommendations concerning possible changes in the Career Teacher Program, with particular focus on: (1) whether the program should be enlarged, maintained at current levels, or reduced or discontinued; (2) whether the approach is most appropriate at particular types of medical schools; and (3) whether the present program is cost-effective.

This report presents the procedures for and results of CONSAD's evaluative effort, and describes the findings from all the components of the study. Major study "products" thus include:

- An evaluative report on the Career Teacher Program, with findings and conclusions and policy recommendations;

- A set of brief descriptive reports on individual Career Teacher projects and Training Centers; and

- A catalog of Career Teacher products, with abstracts, suitable for use by educators, researchers, and practitioners in substance abuse.

II. EVALUATION METHODOLOGY DESIGN

A. Evaluation Design Rationale

The Career Teacher evaluation design was developed specifically to meet the evaluation requirements of the Request for Proposal, including both explicit requirements and the implied requirements underlying them. These implicit study requirements were determined by the assumptions and long-term goals upon which the Career Teacher Program was based.

The Career Teacher Program represents an NIAAA/NIDA response to a recognized problem within the health care delivery system; its long-term goal is to contribute towards increasing the capability of the health care system to "deal effectively with the problems of addiction." According to the 1974 program guidelines, the purpose of the Career Teacher award to an individual medical school is to:

> "...improve the training medical students receive on drug abuse and alcohol abuse by increasing the number and knowledge of academic faculty in medical schools in these areas and by developing regular courses of instruction on these major health problems, and in continuing education programs for doctors."

Given this background, it was necessary for CONSAD's evaluation design to consider not only the success of the present method being used to meet identified needs, but also the possibility that some

modified program approach might be more appropriate in attacking these problems.

We began by considering what "conditions" would be required to increase the capability of the health care system to deal effectively with the problems of addiction. First, in what groups within the health care system are changes needed? Because of their predominance, physicians seem the most important single group; moreover, primary care physicians seem most likely to be the doctors who will have direct contact with individuals having substance abuse problems. Next, consider what capabilities physicians should have, in order to be able to "deal effectively" with alcohol and drug abusers:

- They should have adequate knowledge about the problems of alcohol abuse and drug abuse to be able to plan for meeting the needs of persons who have addiction problems themselves or in their families.

- They should have specific skills in alcohol abuse and drug abuse diagnosis, treatment, and referral. The extent of certain skills required will depend upon the physician's practice -- for example, emergency room physicians need extensive diagnostic skills, particularly the ability to identify various types of drug overdoses and addiction-related illnesses -- but all physicians should be able to recognize alcohol and drug abuse problems, diagnose substance abuse problems, arrange for appropriate referrals, and provide some treatment or at least advice to patients.

- They should have the awareness, understanding, and concern -- the attitudes -- to make them willing to deal with patients and families with alcohol and drug abuse problems.

Assuming the appropriateness of a medical school focus for efforts to encourage these attributes in physicians, we then need to consider what medical schools can and should do in order to "improve the training medical students receive on drug abuse and alcohol abuse." The Career Teacher Program's purposes reflect the assumption that a suitable approach is to: (1) increase "the number and knowledge of academic faculty"; and (2) develop "regular courses of instruction on these major health problems." The Institutes summarize the Career Teacher effort as preparing faculty members for a "leadership" role in educating medical school students. This implies: (1) the need for the faculty member to become educated and expert in the addictions; and (2) the need for the faculty member to assume a leadership role so that his or her knowledge does lead to "education" of the medical students.

Specifically, a medical school can use the following major techniques/approaches:

- Curriculum can be developed which provides basic knowledge about the addictions as a medical problem, teaches some basic skills in substance abuse diagnosis and treatment, and provides awareness and understanding which may affect attitudes towards the physician's role in addictions diagnosis, treatment, and prevention. Instruction can be provided at the pre-clinical and clinical levels, and for required as well as elective courses.

- Exposure and experience in the diagnosis and treatment of the addictions can be provided through clerkships, through having alcohol and drug abusers treated in teaching hospitals so medical students

encounter them during their rounds, and through involving students in consultation to substance abuse treatment programs. Such exposure can increase knowledge and awareness of the problems of addiction, affecting attitudes towards the physician role, as well as offering an important opportunity for skill development.

- Research opportunities in the addictions can be offered at the medical school, so that students can be involved in studies of the effects of particular substances of abuse, etc. This provides considerable knowledge about the nature and effects of addiction in a medical and psychological perspective, and may influence some students to undertake continuing research in the addictions field. To the extent that medical schools undertake addictions research, students learn that the addictions can appropriately be viewed as a "mainstream" medical problem of importance and status.

- Faculty encouragement and "role models" can be provided, in a variety of ways. A physician who considers treatment of the addictions to be a "mainstream" and important responsibility of the primary care physician can model this attitude not only in classes but also during rounds and informal contacts with students. Studies of medical specialty choice suggest the importance of faculty role models in student selection, and many studies have suggested the importance of medical school faculty "models" in developing student perspectives on physician responsibilities, relationships with clients, and approaches to treatment. Thus faculty members who are themselves aware of and committed to dealing with problems of addiction can model not only specific treatment techniques and procedures, but also a concern for addicts, a commitment to make their treatment a "mainstream" responsibility for a primary care physician, and a commitment to long-term, continuing care for individuals and families which includes treatment as well as referrals for handling addiction problems.

The Career Teacher Program has explicitly stated the importance of curriculum development and introduction of courses in the problems of addiction and appropriate medical responses to them. Program guidelines and descriptions also stress the importance of research, consultation, and coordination. The importance of more generalized exposure and role modeling is not explicitly defined, but is implied in the statement that the Career Teacher should "prepare to assume the leadership role in his or her institution in the field of addictions."

Based on this examination of the implications of the Career Teacher Program, CONSAD developed an evaluation methodology which considered not only the "quantifiable" outcomes and short-term impacts of the Career Teacher Program in terms of curriculum developed and courses introduced or expanded, number of students reached, research carried out, consultation and coordination activities implemented, clerkships or other "exposures" provided, training obtained by Career Teachers and provided by Training Centers and Career Teachers, and other definable personal and institutional outcomes, but also some of the more "qualitative" outcomes which may occur -- such as attitude changes and career intention changes on the part of the Career Teacher, sponsor, and perhaps other faculty members. It was considered necessary to examine physician attitudes and perceived appropriate physician roles related to the addictions, and to attempt to determine the nature,

extent, and dispersion of such outcomes among Career Teachers, their institutions, and medical students and physicians.

B. Evaluation Questions and Hypotheses

Using the RFP requirements and the design rationale summarized above, CONSAD developed the following evaluation questions and hypotheses to guide the methodology design effort.

Questions

1. How successful are individual Career Teacher projects, in meeting (1) their own objectives; and (2) Institute goals and objectives for Career Teacher projects?

2. What are the intended and unintended outcomes and the short-term impacts of the individual Career Teacher projects upon (1) the Career Teachers themselves; (2) the sponsors; (3) their medical schools; (4) the "professional community", including medical students, practicing physicians, and other health professionals; and (5) the broader community?

3. How successful are the two Career Teacher Training Centers in meeting (1) their own objectives; and (2) Institute objectives regarding their roles in providing training and resource support to both Career Teachers and the medical and health community?

4. What are the intended and unintended specific outcomes and short-term impacts of the Training Centers on (1) Career Teachers; (2) their own medical schools; (3) the "professional community" of medical students, physicians, and other health professionals; and (4) the broader community?

5. What are the aggregated intended and unintended outcomes and short-term impacts of the Career Teacher Program as a whole upon (1) the Career Teachers; (2) the sponsors; (3) their medical schools; (4) the "professional community" of medical students, physicians, and other health professionals; and (5) the broader community?

6. How cost-effective is the Career Teacher Program as presently constituted? Specifically:

   - Is the program cost-effective, based on a full description of monies expended to date and analysis of outcomes and impacts?

   - What alternatives to the program exist, and how do their costs and potential benefits compare with the costs and benefits of the Career Teacher Program?

7. What are the relationships between institutional characteristics of the medical schools, characteristics of the Career Teachers, and program outcomes? Specifically, what institutional characteristics, characteristics of the Career Teacher project as constituted within the medical school, and Career Teacher personal and experiential characteristics seem to be related to different types and levels of Career Teacher project outcomes and short-term impacts?

8. Does the presence of a Career Teacher grant appear to lead to greater institutional activity in the addictions than would occur in the absence of a grant? This will be determined by comparing alcohol and drug education programs (activity related to the addictions) at Career Teacher medical schools with activity at:

   - Schools of medicine, osteopathy, and public health which did not investigate or apply for a Career Teacher grant;

- Schools which did investigate but did not apply for a Career Teacher grant;

- Schools which applied for but did not receive a Career Teacher grant.

9. Based on outcome and impact measures determined in questions #1-#5, to what extent is the Career Teacher Program as presently constituted progressing towards its goals of encouraging the medical schools to teach students about the problems of alcohol and drug abuse and thus increasing the ability of the health care system to "deal effectively with the problems of addiction"?

10. What are the perceived roles of Career Teachers, and the differences in perceptions, according to the sponsors, other influential medical school personnel, medical students, health professionals, and others affected by the program? How might these differences in perceptions affect project activities and outcomes?

11. What are the major institutional facilitating factors and constraints upon Career Teacher activities? This includes factors within NIAAA and NIDA as well as medical school institutional factors.

12. To what extent does a Career Teacher project appear to generate a "residual capability" within (1) the Career Teacher; and (2) the institution?

13. Based on a determination of the extent to which Career Teacher Program goals, objectives, priorities, guidelines, funding, selection procedures, monitoring procedures, etc., seem to affect Career Teacher project activities and outcomes (as determined through answering questions #5 and #11, especially), are changes needed in these Institute policies and procedures in order to improve the program's potential for meeting its long-term goals, and if so, what changes are needed or what alternative approaches should be considered?

Hypotheses

1. Various institutional facilitating factors and constraints are closely related to the extent and nature of Career Teacher outcomes, and may be the most important predictors of individual Career Teacher project outcomes.

2. Different and sometimes inconsistent "role definitions" for Career Teachers are identified by the Career Teachers themselves, sponsors, other influential faculty at the medical schools, medical students, and Institute personnel -- and these different role definitions affect Career Teacher activities and outcomes.

3. The Career Teacher Program generates two major kinds of "residual capability" in the addictions:

   - Sponsors, and perhaps other medical school personnel, plus Career Teacher products, represent residual capability or "institutional capital" which continues to be applied after the Career Teacher grant has ended;

   - Career Teachers represent residual "human capital" which -- because of mobility -- may or may not reside within the sponsoring institution after the Career Teacher grant has ended, but which will be applied in addictions.

C. Instrumentation and Data Collection Procedures

1. Proposed Instrumentation and Data Collection Procedures

In order to answer the specified evaluation questions and test the hypotheses, CONSAD developed a data collection plan calling for six different checklist instruments to be used in six data collection components, as described in Figure 1, attached.

Figure 1: Data Collection Instruments and Procedures

Instrument Number and Name	Data Source	Types of Information to be Obtained	Data Collection Procedure
#1 - (a) Checklist and (b) attached document review form -- Site Visit Checklist	. Career Teacher . Sponsor . Curriculum Committee Chairman or member . Dean of Medical Education or other influential faculty member(s) such as department head(s) . Medical students . Medical school catalogue and other literature . Career Teacher project records	. Career Teacher personal data/perspectives . Career Teacher activities/plans . Career Teacher project structure and processes . Career Teacher project outcomes/impacts . Institutional characteristics . Sponsor data/perspectives . Key faculty data/perspectives . Trainee data/perspectives	Site visits to 29 Career Teachers whose institutions had grants for at least two years. Site visits to the 29 institutions if someone involved in the program remains. (Some Career Teachers have left the institutions.)
#2 - (a) Checklist and (b) attached document review form -- Training Center Checklist	. Training Center staff . Medical school key faculty . Training Center records, including Career Teacher Status Reports	. Training Center staff data . Medical school institutional data . Training Center structure and processes . Training Center outcomes/impacts . Trainee data/perspectives	Site visits to 2 Career Teacher Training Centers.
#3 - (a) Informal questionnaire (questions will vary slightly for different respondents) and (b) document review forms -- already prepared and used -- Career Teacher Telephone Questionnaire	. Career Teacher . Sponsor . Other influential faculty members . Project records	. Career Teacher personal data/perspectives . Career Teacher project activities/plans . Career Teacher project outcomes/impacts . Institutional characteristics . Sponsor data/perspectives	Telephone interviews with 10 Career Teachers whose institutions have had grants for less than two years; interviews with the Sponsor and with other institutional personnel where feasible; telephone interviews supplemented by materials mailed to respondents for written responses.
#4 - (a) Informal questionnaire and (b) document review summary form, already developed and used -- Non-Career Teacher Medical School Instrument	. For rejected and potential applicants, potential Career Teacher and Sponsor . For other schools, head of Psychiatry Department (or occasionally another department such as Community Medicare) . Institute files on rejected applicants	. Institutional characteristics . Content of application, if any, and reasons for refusal . Reasons why no application was submitted, if none was prepared . Extent of drug and alcohol curriculum/activity at institution	Telephone interviews with a stratified random sample of 26 medical schools, schools of osteopathy, and schools of public health which (1) have not considered making application, (2) considered but did not make applications, and (3) were rejected applicants.
#5 - (a) Informal self-administered questionnaire and (b) variation for Career Teacher/Training Center use -- Trainee Instrument	. Trainees: .. Medical students .. Interns/residents .. Physicians .. Other health professionals .. Others .. Supervisors of subsample of trainees in agency/hospital settings	. Characteristics of trainees/attendees . Type of training attended . Reasons for attendance -- expectations/objectives . Personal outcomes of attendance . Institutional or community outcomes of attendance	Mail-out to a sample of people trained by Career Teachers (or Training Center).
#6 - (a) Informal Interview Checklist and (b) document review summary forms, already developed and used -- Institute Interview Checklist	. NIAAA and NIDA officials who are or were closely involved with the Career Teacher Program . Program files . Grant files -- already reviewed	. Cost data for program . Data on application and selection criteria and procedures . Program origins and growth . Program monitoring procedures . Other program policies and procedures . Institute perspectives on the program	Personal interviews with Institute officials.

During the design period, preliminary visits were made to three Career Teacher sites and one Training Center, to obtain first-hand understanding of the program and identify additional issues to consider in the evaluation. Two physician consultants to CONSAD also provided input to the methodology.

The evaluation instruments were reviewed by Institute personnel, and the first three Career Teacher site visits served as a field test of the primary instrument and data collection procedures. Based on this experience, the instruments and procedures were modified slightly, for greater efficiency and clarity. Copies of the revised instruments are provided in Appendix 3 of this report.

Specific plans for each of the major data collection components are provided in Appendix 3 to this volume.

a. Component #1 - Site Visits to Career Teacher Sites

Field personnel were trained at CONSAD prior to the start of site visits to the Career Teachers and their institutions. They were provided with specific instructions for carrying out the visits, and most field work was done by members of the project core team. A summary of site visit procedures is provided in Appendix 3.

CONSAD contacted all Career Teachers by telephone to schedule each site visit, and worked with each to pre-schedule appointments with

all desired respondents. Thus site visits were carefully planned to make best use of CONSAD and Career Teacher time.

Visits were planned to 30 Career Teachers who were associated with the 29 Career Teacher grants which had been funded for two years or more by September, 1976 (One institution had two Career Teachers during the course of the grant). For the six Career Teachers who had left their institutions, visits were planned to the Career Teachers at their present locations, and contact was to be made to their institutions where sponsors or other individuals familiar with the project were still at the institutions.

b. Component #2 - Site Visits to Training Centers

Site visits to both Training Centers were scheduled. These visits were planned for the end of the field period, so that CONSAD personnel would be familiar with all Career Teacher projects before examining the activities of the Training Centers in support of these projects.

c. Component #3 - Career Teacher Telephone Survey

Telephone surveys were planned to reach the ten Career Teachers and institutions which had been funded for less than two years as of September 1976.

d. Component #4 - Non-Career Teacher Institutions Survey

This component called for telephone contacts with personnel from medical schools, schools of public health, and schools of osteopathy not participating in the Career Teacher Program. For sampling purposes, the following universe was identified:

- Type I: Rejected institutions - nine schools of medicine which have applied unsuccessfully for Career Teacher grants;
- Type II: Interested non-applicants - four schools of medicine, one school of osteopathy and one school of public health which have contacted a Training Center for grant information, but have never applied for a grant;
- Type III: Institutions showing no interest in award - schools which have never contacted a Training Center or submitted an application;
  - Subtype A - 54 medical schools;
  - Subtype B - 8 schools of osteopathy;
  - Subtype C - 18 schools of public health.

This universe excluded the 51 medical schools and one school of public health which have received, or are currently under consideration for, a Career Teacher or Training Center grant.

From this universe, the following sample of 26 institutions was randomly selected for a telephone survey:

Institution Type	Total Number	Sample Size
Type I - Rejected	9	4
Type II - Interested	6	6
Type III - Uninterested	80	16
IIIA - medical	54	7
IIIB - osteopathic	8	3
IIIC - public health	18	6

For Type I and II institutions, the interviewer was first to contact the individuals involved in the application to NIAAA/NIDA or in the correspondence with Baylor or Downstate. Any information which could not be obtained directly from them was to be requested from others identified by these individuals or from the Dean's office. At Type III institutions, initial contact was to be made with the Dean's office; questions regarding potential interest in the grant were to be asked of those identified by the Dean or his representative (the chairman of the department or departments most likely to include substance abuse in the curriculum). All interviews were to be done by telephone.

e. Component #5 - Trainee Mail Survey

A mail survey was planned to determine effects/impacts of training provided by the Career Teachers. Brief questionnaires were to be sent to up to three trainees identified by each Career Teacher in each of the following three categories (or to a total of up to nine trainees per Career Teacher):

- Medical school courses;
- Continuing education; and
- Other lectures and presentations.

Each Career Teacher was to be asked to provide a list of trainees by category, from which this sample of trainees would be identified.

f. Component #6 - Institute Interviews

Personal interviews with six NIAAA and NIDA officials with major involvement in the Career Teacher Program were planned for late in the data collection period. Scheduling was designed to assure that CONSAD interviewers would have some preliminary findings which could be discussed with the Institute personnel at the time of the interview.

Data collection was scheduled for March through May of 1977, with some mail and telephone efforts expected to continue into June. Contacts with Career Teachers were scheduled to be completed before the end of the spring semester at the medical schools, to maximize availability of medical school personnel.

2. Actual Data Collection Experience

The data collection effort proceeded largely as planned; Figure 2, attached, summarizes planned and actual data collection by component, and explains the differences between planned and actual response rates. Some modification in the procedures were necessary to overcome problems which arose; these included the following:

- Some of the information requested during the site visits and telephone interviews with Career Teachers was not readily provided on short notice. CONSAD therefore began to mail to Career Teachers the forms needed to provide information on training sessions, trainees, and perceptions of Career Teacher roles and objectives. Completed forms could then be picked up during site visits, or mailed back to CONSAD after a site visit or after a telephone interview. Some Career Teachers failed to return these forms despite reminders.

Figure 2: Data Collection Experience

Component/Instrument	Planned Visits/ Respondents	Actual Visits/ Respondents	Reasons for Differences between Planned and Actual Data Collection
#1 - Site Visits to Career Teacher Sites	Visits to 29 Career Teachers and the grantee institutions	Visits to 30 Career Teachers and 27 institutions; telephone interviews with Sponsors and other officials at 2 institutions	One grantee had 2 different Career Teachers during the grant period; both were visited. (Four professors at Texas Tech share the grant; all were visited but they were counted as one Career Teacher.) Career Teachers has left six of the institutions; they were visited at their present locations. Separate visits were made to all but 2 of the grantee locations, which were contacted by phone.
#2 - Site Visits to Training Centers	Visits to both Training Centers	Visits to both Training Centers	----
#3 - Career Teacher Telephone Survey	Telephone interviews with 10 Career Teachers, 10 Sponsors, 10 deans or other institutional personnel	Telephone interviews with 9 Career Teachers, 9 Sponsors, and 4 deans.	One Career Teacher who has left his institution could not be contacted, despite repeated attempts. One Sponsor was unavailable. Two additional deans were contacted but were unable to provide substantive input due to lack of familiarity with the program; four could not be contacted.
#4 - Non-Career Teacher Institutions Survey	Telephone interviews with personnel from: . 4 medical schools whose applications were rejected . 6 schools which showed interest but did not apply (4 medical schools, 1 school of osteopathy, and 1 school of public health) . 16 schools which have not indicated an interest in the program (7 schools of medicine, 3 schools of osteopathy, and 6 schools of public health) (A total of 26 schools)	Telephone interviews with: . All 4 rejected medical schools; . All 6 interested institutions; . 15 of 16 schools which have not shown interest (7 schools of medicine, 3 schools of osteopathy, and 5 schools of public health) (A total of 25 schools)	One school of public health was repeatedly contacted, but needed information could not be obtained.
#5 - Trainee Mail Survey	Mail survey of up to 9 trainees identified by each Career Teacher; up to 3 in each of the following categories: . Medical school courses . Continuing education . Other lectures and presentations	Actual number of trainees identified: 62 from 10 Career Teachers. Mail-out was to these 62; 4 were returned "undeliverable" because of address changes; 35 usable and 1 unusable completed surveys were returned	Only 10 of 40 Career Teachers provided CONSAD with trainee lists. These 10 provided onlu 62 names with addresses. (Some Career Teachers have not had trainees in all categories; many have not kept records on individual trainees.)
#6 - Institute (NIAAA and NIDA) Interviews	6 personal interviews, 3 with NIAAA officials, 3 with NIDA officials	7 personal interviews, 3 with NIAAA officials, 4 with NIDA officials	----

- At some of the sponsoring institutions visited or telephoned, the time available for interviewing the Career Teacher, Sponsor or Dean was limited, and it was not possible to cover all items in the interview checklist. Interviewers asked questions in priority order to minimize the loss of data when an interview could not be completed. Certain questions which required more time of the respondent, such as reviewing old records, were left for completion after the interview, to be picked up or mailed to CONSAD.

- CONSAD had hoped to obtain data on the extent of faculty involvement in substance abuse work and the amount of funded drug and alcohol research before, during and after the Career Teacher grant as a measure of institutional impact, but these data were unavailable at a large number of schools.

- It had been hoped that most information on curriculum hours in substance abuse before and after the grant period could be obtained from the Downstate Training Center survey forms which were shared with CONSAD. However, many Career Teachers had not completed either the pre-grant or the current form, and so it was necessary for CONSAD to ask most Career Teachers for this information. Some problems were encountered with the exact definition of curriculum hours, the recollection of data from up to six years ago, and certain inconsistencies between hours reported to CONSAD and to Downstate.

- Some Career Teachers have left the institutions which received Career Teacher grants; some Sponsors have also left. Six Career Teachers of the 30 to be visited were in this category. Thus CONSAD had to locate the Career Teachers and visit them wherever they were. Four of the six schools which had these Career Teacher grants were also visited (one had a replacement Career Teacher), while personnel at the other two were contacted by telephone. The full Instrument #1 checklist was used during these telephone surveys, so few data items were lost by this procedure.

- Three grants have had two or more Sponsors, and CONSAD attempted to interview the five former Sponsors from these grants by phone. Only one of these five was reached. The current Sponsor at each of the three schools was interviewed, however.

- Although an attempt was made to interview undergraduates and/or residents during each site visit, it was not considered necessary to reschedule the visit or conduct a mail follow-up when none were available. No students were interviewed at those sites where Career Teachers had left.

- The less-than-two-year Career Teachers included several who were with the program a short time and two who had already left the sponsoring institutions. Where the project had lasted a short time or been completed several years ago, few institutional personnel were thoroughly familiar with the project. Thus only five of the deans contacted were able to provide substantive information about the project.

- One data gap identified during the field work was the lack of information (including numbers, names, characteristics, and addresses) about project "trainees" -- including medical students, physicians attending continuing education sessions, and participants at lectures or other presentations given by the Career Teachers. Only 10 of the 40 Career Teachers provided trainee lists permitting contact with a trainee sample. This greatly limited trainee follow-up, and minimized the value of data collected from trainees.

- Contacts with non-Career Teacher institutions were made complicated because any of several departments might be a reasonable contact for a discussion of interest in the program and activity in substance abuse. However, most institutional personnel were quite helpful, and several requested information about whom to contact at the Institutes to find out about applying for a Career Teacher grant.

Except for the kinds of difficulties identified above, the data collection effort proceeded largely as planned, and most of the checklist questions could be answered. However, the recollections of Career Teachers about conditions before and during the grant period varied greatly, partly because some years may have elapsed since their participation in the program, and partly because written records about project activities and effects were generally very limited. There were also a few questions in the checklist which, despite careful control efforts by CONSAD, were not used by the various site visitors in a completely consistent manner. These two problems were noted during the analysis of the data, and appropriate cautions were taken and indicated in reporting study findings.

D. Analytic Procedures

In order to organize and thoroughly review data gathered from the various types of respondents contacted, data were initially organized on a project basis such that a file for each Career Teacher grant and each Training Center was developed. Since all data for a given project did not always come from one site and data were often collected by more than one CONSAD analyst, the file served as the central organizer for all information.

After each site visitation, data in each file were reviewed for completeness by one individual familiar with the grant project. In cases where data had not been complete, Career Teachers or Sponsors were contacted and urged to complete forms left with them or to clarify that data that were missing or unclear.

After insuring that a file was complete, a series of analytic procedures were employed in analyzing the data and producing the products of the evaluation.

1. Catalog of Career Teacher Products

One of the objectives of this evaluation study was to collect and catalog those products produced by Career Teachers during the period of the grant. Each file was reviewed for materials sent to the CONSAD office and collected on-site by the site visitors. These products consisted primarily of curriculum materials and journal articles. Products were pulled from the files and labeled with an identifying number. Each product was abstracted and assigned a classification number which identified the appropriate categories within which the product fell. In addition, each abstract was assigned an NCALI code which formed the "crosswalk" from the CONSAD classification number to that of the Clearinghouse. After classification, the abstracts were indexed into categories appropriate for use by individuals interested in medical education. The final product, which consisted of both abstracts and indices, was the Catalog of Career Teacher Products.

2. Individual Site Reports

Concurrent with the production of the catalog, data from each Career Teacher project and the two Training Centers was collected and reviewed for the preparation of a site report, fully describing the background and progress of each grant. Each Career Teacher project report contained:

- Grant period and dollar amount;
- Institutional description;
- Sponsor description;
- Pre-project status of substance abuse activities; and
- Description of the project, including activities and outcomes.

The Training Center reports contained:

- Grant period and dollar amount;
- Institutional description;
- Training Center staff description; and
- Description of the project, including activities and outcomes.

All reports were non-evaluative and reported only those activities and outcomes resulting from the grant.

3. Analysis of Study Findings

Also concurrent with the preparation of the "Catalog" and the individual site reports, the data necessary for conduct of the program evaluation were being prepared. Those data amenable to computer analysis were coded, key punched and verified, creating a seven-card

record of data received from each Career Teacher project. The data that were unsuitable for computer analysis -- primarily open-ended questions -- were reviewed manually, and summarized and lists were prepared. The primary groups of data computerized were:

- Description of the sponsoring institution;
- Description of the Career Teacher Sponsor;
- Description of the Career Teacher;
- Activities pursued during the grant period;
- Outcomes of the grant project;
- Other attitudes and perceptions.

The Statistical Package for the Social Sciences (SPSS) computer system was used to aggregate, cross-tabulate, and describe the distribution of all data. The results of these computer runs and the analysis of manually tabulated data formed the basis of the study findings reported in this volume.

One of the special efforts made in this evaluation was to determine the association between the project outcomes and the personal and institutional variables within each project. The outcome variables used in this analysis and the method of calculation were as follows:

- Human capital outcomes:

  - Percent of time working in substance abuse field. The percent of time spent by the Career Teacher in substance abuse prior to receipt of a grant award, subtracted from the percent of time currently being spent, whether or not the grant was still active.

- Change in medical faculty expectation. A comparison of the Career Teacher's expectation of a career on the faculty of a medical school prior to the grant award and currently. Responses were summarized as: (1) no change, (2) positive change, or (3) negative change.

- Change in substance abuse career expectation. A comparison of prior and current expectations of a career in substance abuse calculated the same as medical faculty expectation.

- Change in career emphasis. Each Career Teacher ranked his or her career emphasis among medical education, clinical service and research for the period prior to the grant award and currently. Any change in ranking was considered a change in career emphasis.

- Change in position. A promotion on a medical faculty or a move to a higher position was a positive change; a move downward or leaving medical education was considered a negative change; all others were no change.

- Change in knowledge. If a Career Teacher indicated a "high" level of knowledge on a four-point scale in both drug and alcohol abuse prior to the grant award, the data were dropped from analysis. If neither drug nor alcohol abuse knowledge were rated "high", then a two-point total increase in knowledge from prior to current was required for a Career Teacher to be considered to have had a positive change in knowledge -- a one-point increase on both the drug and alcohol scale or a two-point increase on either scale qualified as a positive change. If only one scale was "high" prior to the grant award, a one-point increase in knowledge from prior to current was considered a positive change. All other cases were considered no change.

- Change in interest. Since two four-point scales were used to measure prior and current interest in drug and alcohol abuse, any combination yielding a two-point jump in the same direction -- increased interest or decreased interest in substance abuse -- was necessary to record a change. All others were recorded no change.

- Institutional changes:

  - Changes in substance abuse curriculum. The difference between the number of hours in substance abuse available at all levels prior to the grant and currently. The change in curriculum hours in substance abuse was also analyzed for undergraduate required curriculum only.

  - Substance abuse curriculum developed by the Career Teacher. Analyzed in terms of all curriculum and undergraduate required curriculum.

  - Sponsor involvement in substance abuse. Self-reported change in involvement in the field prior to the grant award to present.

  - Sponsor interest in substance abuse. Self reported change in interest prior to the grant award to present.

  - Other institutional changes. Career Teachers, Sponsors and Deans were asked to identify institutional changes in five areas. The number of areas having at least one respondent indicating a positive change was the outcome measure for each project.

Since both the outcome measures and the explanatory personal and institutional variables were of a nominal or ordinal nature, a contingency table approach to examination of the data was used rather

than other variance-reducing methods such as linear regression. Approximately 360 tables were generated and examined to identify those variables having any association with project outcomes. Since most tables generated had many "zero" cells and cells with frequencies under five, the chi-square statistics calculated were unreliable. However, a decision rule to examine all tables with a chi-square significant at the 0.15 level or less was employed. Outcomes were not closely associated with many personal or institutional variables. An initial pass through the tables yielded approximately 25 tables that met the initial decision criteria. A closer examination of these tables cut the number of tables down to nine.

The small number of associations between project outcomes and the explanatory variables may be explained by two interrelated factors. It is reasonable to expect that project outcomes are the result of influences brought to bear by the Career Teacher, the Sponsor and the sponsoring institution, and that the influence of one of those factors may not be discernable. That is, certain combinations of these three factors may be very closely associated with project outcome, but extracting one element from the combination will not show nearly as strong an association. The second reason for a small number of outcome-factor associations is the small size of the sample, i.e., with "n" equaling a maximum of 40. Since contingency table analysis requires

that at least 80 percent of the cells have frequencies at least equal to five and that no cells have frequencies less than one, it is difficult even in a three by three table to satisfy these requirements with this small sample. In addition, many tables have 20 or more cells, and hence the 40 data points distributed among these cells showed little discernable pattern.

III. STUDY FINDINGS

This chapter summarizes the findings of CONSAD's evaluation of the Career Teacher Program. Section A summarizes the 39 Career Teacher projects funded through August 1976, and includes:

- An aggregated description of the projects:
  - The sponsoring institution;
  - The Career Teacher Sponsor; and
  - The Career Teacher.
- The outcomes of the projects:
  - Human capital development;
  - Institutional changes;
  - Extra-institutional changes; and
  - Curriculum materials and other products.

Section B describes the functions and activities of the two Training Centers.* The three primary roles of Training Centers -- training Career Teachers, providing technical assistance to Career Teacher projects, and coordinating joint Career Teacher activities -- are examined in light of the Training Center outcomes and the joint outcomes of the 39 Career Teacher projects.

Section C reports the results of data collected from institutions which have not received a Career Teacher grant. Analysis of these data reveals the differences between these institutions and the institutions that have (or had) a Career Teacher grant.

Section D summarizes the data obtained to test the three evaluation hypotheses developed for the study.

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*Both funded by NIDA.

A. Career Teacher Projects

This section summarizes the key elements of the 39 Career Teacher projects, and the outcomes of these projects. The third subsection analyzes the association of these outcomes with both individual and institutional factors. An analysis of the costs of the Career Teacher Program is presented in the final subsection.

1. Project Components

Every Career Teacher project has three basic components: (1) the institutional grant recipient; (2) the individual Sponsor for the grant; and (3) the Career Teacher who is responsible for pursuing activities to meet grant objectives. The variation in characteristics of each of these basic components is quite broad, hence the combinations that result from combining them for study are numerous. Among the 39 Career Teacher projects, in fact, no two have the same configuration, although there are many similarities among them that are useful points for analysis. Each element is described separately below in order to highlight its key dimensions. The dimensions of each element that were selected for examination reflect the research hypotheses and evaluation questions developed in the design of the study.

a. Sponsoring Institutions

Although Career Teacher grants have been available to schools of medicine, osteopathy and public health, with the exception of one

unsuccessful application by a school of public health, only medical schools have applied for and received grants. As can be seen in Table 1, the 39 medical schools that received a Career Teacher grant are divided almost equally in terms of their institutional affiliation -- public or private -- and in terms of their size as measured by student enrollment -- less than 500 or more than 500. Eleven of the 39 medical schools were founded after 1960; all of those have less than 500 enrolled students, and ten of the 11 are publicly funded. Geographically, the schools are spread throughout the states, but are primarily in medium and large cities. Five medical institutions are in cities under 100,000 population, 17 in cities of 100,000 - 500,000 population, and 17 in cities over 500,000 in population.

Table 1: Sponsoring Institution Enrollment, Year Founded and Source of Funding

Source of Funding	Founded Prior to 1960		Founded After 1960		Total
	Less than 500 Enrolled	More than 500 Enrolled	Less than 500 Enrolled	More than 500 Enrolled	
Public	0	10	10	0	20
Private	6	11	1	0	18
Both	0	1	0	0	1
Total	6	22	11	0	39

Table 2, below, describes the basic academic structure of the medical schools in terms of the length of the undergraduate program, and the existence of departments of family medicine/family practice and/or community medicine/preventive medicine/public health. These two departments, along with Psychiatry (which exists in all schools) might be expected to provide the opportunity to teach about substance abuse. Thirty-two of the sponsoring medical schools have departments of community medicine/preventive medicine/public health, while 18 have departments of family medicine/family practice. As would be expected, a large proportion (72 percent) have regular four-year programs, reflecting the general pattern of medical education today. The educational orientation of the sponsoring institutions, as indicated by key administrators, is described in Table 3.

Table 2: Academic Structure of Sponsoring Institutions

Length of Academic Program	Availability of Specialized Departments				
	Family Medicine/ Family Practice	Community Medicine/ Preventive Medicine/ Public Health	Both	Neither	Total
1. 4 years	2	13	9	4	28
2. 3 years	1	0	1	0	2
3. 4 years with 3-year option	0	1	5	0	6
4. 3 years with 4-year option	0	0	1	0	1
5. 2 years pre-clinical	0	1	0	0	1
6. 2 years clinical	0	0	0	0	0
7. Other	0	0	1	0	1
Total	3	15	17	4	39

Table 3 : Medical School Orientation

General Orientation	Orientation within Care Emphasis			Total
	Primary Care	Specialties	Both	
Research	0	3	0	3
Patient Care	17	6	6	29
Both	1	3	2	6
Total	18	12	8	38

Among the 38 respondents, three indicate research as a significant academic orientation, and six a joint emphasis, with the majority (29) emphasizing patient care. Although many hesitate to classify their institution as emphasizing primary care or any medical specialty, many indicate that the institution is following the national trend toward a primary care emphasis. Not surprisingly, all three research-oriented schools indicate an emphasis on preparing students for medical specialties.

Among the required and elective clerkships offered at each institution, no institution requires a clerkship in alcohol abuse, drug abuse or substance abuse, although many include it as a significant part of required clerkships. Among the 39 institutions, 20 offer a drug abuse elective clerkship, 18 an alcoholism elective clerkship, and 24 a substance abuse clerkship. Obviously, these figures represent a double counting of clerkships in more than one category. Thirteen medical institutions do not offer any clerkships in alcohol and/or drug abuse.

Although all institutions surveyed indicate clinical relationships exist -- either formally or informally -- with drug or alcohol treatment program(s), the type and nature of this relationship is extremely varied. Some sponsoring institutions, particularly those in major urban areas, have numerous informal affiliations in addition to formal hospital programs. Others are associated -- often informally -- with only one drug or alcohol unit, ranging from a veterans hospital alcohol detoxification program to a methadone maintenance program in a local mental health center.

Other measures of institutional substance abuse involvement are the level of substance abuse funding and the number of faculty working in the field. Accurate and complete estimates of these variables were unavailable; therefore, meaningful aggregations cannot be provided.

Various individuals at each institution (typically the dean, the Sponsor and the Career Teacher) were asked to discuss the attitude of their school with regard to some basic issues regarding medical care and substance abuse. The following table lists the attitudes measured and the responses of each group. A response of "don't know" should be interpreted to mean that the respondent did not have a sense of the attitudes of the school, not that the respondent did not have an attitude. Examination of the data reveals that as a group, deans, Sponsors and Career Teachers share the same perceptions of attitudes within their

schools. Although the aggregation "washes out" individual differences among the schools, it does permit some measure of attitudes across medical schools.

Table 4: Medical Care/Substance Abuse Attitudes within Sponsoring Institutions

Attitude Questions	Yes	No	Don't Know
1. Should the primary care physician be able to treat drug and alcohol emergencies?			
Career Teacher	19	3	8
Sponsor	17	0	11
Dean	17	1	11
Total	53	4	30
2. Should the primary care physician be able to provide long-term care to drug abusers?			
Career Teacher	5	16	9
Sponsor	4	9	15
Dean	8	10	11
Total	17	35	35
3. Should the primary care physician be able to provide long-term care to alcohol abusers?			
Career Teacher	8	13	9
Sponsor	9	6	13
Dean	10	9	10
Total	27	28	32
4. Can alcoholism be treated?			
Career Teacher	12	6	12
Sponsor	13	4	11
Dean	14	3	12
Total	39	13	35
5. Can drug abuse be treated?			
Career Teacher	13	5	12
Sponsor	14	4	10
Dean	14	4	11
Total	41	13	33
6. Should questions about substance abuse be included on the national board exams?			
Career Teacher	17	3	10
Sponsor	17	3	8
Dean	20	0	9
Total	54	6	27

There is almost unanimous agreement among the respondents (93 percent) that primary care physicians should be able to treat drug and alcohol emergencies. The attitude toward the provision of long-term care is not nearly so universal. The majority attitude (67 percent) is that long-term care for drug use is not a role for the primary care physician. For alcohol, however, the split is almost "50-50". It might be concluded from the difference between the response to long-term drug care vs. long-term alcohol care that there is difference in the perception as to the treatability of each. But similarity in response to questions dealing with treatability (questions 4 and 5) reveals that not to be the case. Indeed, the respondents indicate that faculty at a majority of the schools believe that alcoholism and drug abuse can be treated; they differ as to the physician's role. There is overwhelming support for the inclusion of questions about substance abuse on national board exams.

b. Career Teacher Sponsors

Although the Career Teacher is the focal point within each grant project, the Career Teacher Sponsor is "ultimately responsible for coordinating and supervising the career teacher's training"[1]. Seventy percent of all Sponsors surveyed indicate that five percent or less of their time was spent on the Career Teacher project. However, 77 percent

[1] NIAAA/NIDA guidelines, "Academic Career Teacher award in Narcotic Addiction, Drug Abuse, and Alcohol Abuse.

of the Career Teachers have indicated that their Sponsors have had a positive effect on the Career Teacher project within their schools. It is, therefore, pertinent to describe who the Sponsors are as a basis for associating their characteristics with project outcomes.

Among the grants of two years or more, all Sponsors but one are male, and all but two hold M.D. degrees. The medical specialties of the Sponsors reflect the distribution of Career Teacher grants among departments. That is, 23 of 29 Sponsors in the two-year grant group indicate psychiatry as their field of medical specialty, and 30 Sponsors in the total group indicate their departmental affiliation as psychiatry. The following table summarizes Sponsor specialties.

Table 5: Sponsor Medical Specialty*

Sponsor Medical Specialty	Number
Psychiatry	23
Internal Medicine	2
Pharmacology	1
Other	3

The age distribution of Career Teacher Sponsors as described in Table 6 clusters around the 46-50 age bracket, with the mean being 49.1 years old. These data reflect the participation as Sponsors of individuals who have reached established career positions and professional credibility.

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*Does not include two non-physician Sponsors or one unavailable Sponsor.

Although the number of years at the sponsoring institution may not be indicative of this established career status (most have been at their schools less than 10 years), the total number of years on medical faculties does support this. Over half have been faculty members for sixteen years or more. Table 7, below, displays the distribution of both of these variables.

Table 6: Distribution of Career Teacher Sponsor Ages*

Age Range	Frequency
< 40	2
41-45	7
46-50	7
51-55	7
56-60	1
> 60	0
Mean = 49.1 years	24

Table 7: Sponsor Medical School Experience

Number of Years	At Sponsoring Institution	On All Medical Faculties
0-5	8	2
6-10	17	6
11-15	5	7
16-20	4	10
21-25	1	8
26-30	1	1
30	1	3
Total	37	37

*This question asked only in on-site interviews.

Among the 39 grants, all Sponsors but one are tenured.* The majority of Sponsors are department chairmen; and only one Sponsor holds a title less than professor. The following table describes the Sponsors' titles and departmental affiliations. Twenty-two of the Sponsors -- 58 percent -- are chairmen of the Department of Psychiatry at the sponsoring institutions. This reflects the large number of awards to Departments of Psychiatry -- 76 percent -- and the large number of department chairmen serving as Sponsors -- 71 percent.

Table 8: Sponsor Title and Departmental Affiliation

Sponsor Title	Sponsor's Departmental Affiliation				Total
	Psychiatry	Pharmacology	Internal Medicine	Other	
Associate Professor	1	0	0	0	1
Professor	5	1	0	0	6
Department Chairman	22	2	0	3	27
Dean	1	0	1	1	3
Other	1	0	1	0	1
Total	30	3	2	4	39

More than half -- 58 percent -- of all Career Teacher Sponsors indicate that they were "very" or "somewhat" involved professionally in the substance abuse field prior to the award of the Career Teacher

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*The one untenured Sponsor is a department chairman but has not received tenure for a variety of institutional reasons.

grant. In addition, 81 percent of the Sponsors indicate "moderate" or "high" interest in substance abuse. The following tables describe reported Sponsor involvement and interest in alcohol and drug abuse.

Table 9: Sponsor Prior Professional Involvement in Substance Abuse

Involvement	Frequency	Percent
Very much	11	28.9
Somewhat	11	28.9
Little	10	26.4
Not at all	6	15.8
	38	100.0

Table 10: Sponsor Prior Professional Interest in Substance Abuse

Interest	Frequency	Percent
High	16	43.2
Moderate	14	37.8
Low	3	8.2
Minimal	4	10.8
	37	100.0

Although only 12 of the 36 Sponsors responding indicate that their involvement in the Career Teacher project has demanded more than five percent of their time and only four Career Teachers report

Sponsor involvement greater than five percent, 26 of 33 Sponsors indicate a high level of interest in the project, and 25 of 30 Sponsors indicate a high level of commitment, with none indicating less than moderate interest or commitment. Career Teachers' assessments confirm their Sponsors' reported interest and commitment to the project, although not to the same degree. Twenty out of 36 Career Teachers report a high level of interest by their Sponsors; 21 out of 35 Career Teachers report a high level of commitment by their Sponsor. In addition, most Sponsors -- 30 out of 33 -- and Career Teachers -- 31 out of 38 -- indicate that the time spent by Sponsors has been sufficient to support Career Teacher efforts.

Specific Sponsor roles recommended by Career Teachers and Sponsors are varied, but can be viewed as two distinct sets -- active roles and supportive roles. The active roles include the training of the Career Teacher, the development of substance abuse curriculum and the training of medical students. In general, these active roles are not recommended by many Sponsors or Career Teachers. In fact, only five Career Teachers and two Sponsors recommend that Sponsors have expertise in substance abuse. The variety of supportive roles is recommended with much greater frequency. The most frequently recommended Sponsor role involves active support and advocacy of Career Teacher activities within the medical school. In particular,

"political" advice or active "political" support is seen as a major role for Sponsors. Other major supportive roles recommended include supervision of teaching and research, administrative support within the department and the school, coordination of departmental activities, and assurance of adequate time for Career Teachers. Not surprisingly, Career Teachers are more concerned with Sponsors providing adequate time to pursue career activities and providing clinical and teaching coverage while on travel than they are with direct Sponsor supervision of their work. The Sponsors, however, frequently recommend supervision as an appropriate role. Since most Sponsors and Career Teachers -- 22 of 28 responding -- believe that the Sponsors have been adequately carrying out these supportive roles, the recommendations focus on having Sponsors continue current activities and level of involvement.

Sponsors were asked to review four long-term goals of the Career Teacher program:

a. Improve the training medical students receive on drug abuse and alcohol abuse.

b. Prepare medical schools to provide leadership, advanced training, consultation, and coordination in the addictions field, within the institutions and to the community at large.

c. Change doctors' attitudes and knowledge about substance abuse.

d. Improve the capability of the health care delivery system to deal effectively with the problems of addiction.

Of the 21 Sponsors reviewing these goals, there is almost unanimous agreement that the Career Teacher Program will contribute to their accomplishment. (One indicates no contribution to goal a and two did not respond to goal d.) There is similar support for the notion that the Career Teacher program is the appropriate mechanism for achieving those goals, although some Sponsors indicate that other approaches are needed to change doctors' attitudes and knowledge (goal c) and improve system capability (goal d). The specific approaches recommended, however, do not have any consistent theme.

The following table describes the Sponsor response to the appropriateness of the Career Teacher Program in accomplishing these goals:

Table 11: Sponsor: "Is the Career Teacher Program a practical and rational means of reaching these goals or would other approaches be more appropriate or effective?"

Goal	Practical/ Appropriate	Other Approaches	Both	Don't Know
a. Improve Training	19	0	0	2
b. Prepare Medical Schools	17	1	1	2
c. Change Doctors' Attitudes	16	1	3	1
d. Improve Health Care System	13	4	2	2

The Career Teacher Sponsors were asked to evaluate 13 objectives commonly identified by individual Career Teacher projects. The evaluation took the form of a weighted rank of importance that was averaged across all Sponsors. In addition, the Sponsors assigned a value from 0 to 100 to each objective to indicate the degree to which their own project has achieved the objective. These achievement levels were then averaged over all Sponsors (see Chapter II, Section D). The results of the evaluation are described in Table 12. Although curriculum development is rated at the high end (ranked 4 and 5), the personal development of the Career Teacher, as an expert in the field (rank = 3) and as a knowledgeable person in the medical school (rank = 1), is deemed more important by the Sponsors. Sponsors also believe that these two objectives have been achieved to the greatest extent. The low achievement level of curriculum development for graduate medical students (interns and residents) is somewhat indicative of the emphasis given by most Career Teachers to undergraduate education. (See Section A.1.c of this chapter.)

Sponsors were asked to rate the following Career Teacher roles as either "essential", "important" or "unimportant":

- Curriculum development/teaching;
- Clinical services, supervision, and consultation;
- Research in substance abuse;

Table 12: Evaluation of Project Objectives*
(Sponsors)

	Relative** Weighted Value	Rank	Achievement Level 0 = No achievement 100 = Achievement
1. Establishment of one knowledgeable person in substance abuse in the medical school	110.3	1	97.0
2. Development and adoption of undergraduate medical school curriculum	88.7	4	61.6
3. Development and adoption of substance abuse curriculum and exposure for interns and residents	82.3	5	47.0
4. Teaching of courses/didactic sessions in substance abuse in the medical school	74.3	8	62.0
5. Planning and implementation of continuing education sessions for practicing physicians	66.6	10	39.1
6. Planning and implementation of sessions for other health care personnel	41.7	13	29.5
7. Planning and implementation of courses or sessions for students in allied health professions, behavioral sciences	45.7	12	31.2
8. Development and supervision of clerkships and other clinical exposures for medical students	67.5	9	47.5
9. Carrying out of research in substance abuse	77.2	7	47.9
10. Teaching consultation in substance abuse to other faculty	77.5	6	53.3
11. Clinical consultation in substance abuse	61.0	11	62.9
12. Development of individual Career Teacher long-term career commitment to medical education in substance abuse	101.1	3	83.7
13. Encouragement to students and practicing physicians to become involved in substance abuse prevention/treatment/research teaching	105.8	2	51.6

*Based on the responses of 12 Sponsors.

**Numbers have no significance other than as a basis for comparison with each other.

- Visibility as a role model for students;
- Exposure to other faculty;
- Exposure to medical community (publishing, societies, etc.).

All Sponsors see all roles as either important or essential with the exception of a few random "unimportant" responses. Curriculum development received the greatest number of "essential" ratings, but this is not necessarily indicative of greater importance than other roles.

Sponsors were requested to make recommendations for changes in the Career Teacher program. The following are the highlights of these recommendations:

- Although the amount allowed for salary is fixed at $25,000, many Sponsors suggest an increase of anywhere from $5,000 to $25,000.
- With regard to the length of the grant, only one Sponsor sees two years as a reasonable minimum, and most see five years as a reasonable maximum.
- The recommendations for Career Teacher qualifications are varied, but generally the Sponsors believe that demonstrated interest, commitment and/or experience in substance abuse are important. It is also recommended that the Career Teacher have a demonstrated credibility within the medical school.
- The overwhelming recommendation for sponsoring institutions is demonstrated commitment to the goals and objectives of the Career Teacher program. Measures of commitment were not suggested.

c. Career Teachers

The recipient of a Career Teacher award is typically younger than his Sponsor, an M. D., and a junior member of the faculty, most likely in the Department of Psychiatry. Approximately half are under 40 years old, although their ages range from 32 to 60. All but five hold medical school degrees (M. D.'s and Ph. D.'s). Only three Career Teachers have a higher rank than Associate Professor, and over half are Assistant Professors. They teach primarily in Departments of Psychiatry, but also in Pharmacology, Community Medicine, and Internal Medicine. Some were already extensively involved in the substance abuse field before receiving the grant; about half, however, had no more drug and alcohol abuse experience than others in their department.

The major grant activities for Career Teachers are self-training (in substance abuse primarily, but also in curriculum development) and preparing and delivering substance abuse instruction in the medical school. These two activities account for 27.1 and 21.3 percent, respectively, of their time during the grant, with more of the self-training occurring during the first year of the grant than in subsequent years. While 20 percent of the Career Teachers emphasize research while serving as Career Teachers, the majority make curriculum development and/or clinical services their emphasis. Most Career Teachers have worked outside their medical schools as well; 93 percent have aided local drug and alcohol abuse treatment programs, and

83 percent have worked with state drug and alcohol authorities. Within the medical schools, most have substantial contact with students. Eighty-nine percent have contact with all pre-clinical students in the school, and 81 percent see some or all of the clinical students. Reports from approximately half the Career Teachers indicate they have taught approximately 20,000 medical students, physicians, health and mental health workers and others during the grants.

Among the factors affecting the outcomes of Career Teacher grants are the personal and institutional variables at each school, the Career Teacher Training Centers, and the grant providers -- NIDA and NIAAA. Facilitating the work of the Career Teacher are the support of administrators, the Sponsor and other faculty members and the Career Teacher's own commitment and credibility. Institutional factors -- other demands on a Career Teacher's time, curriculum inflexibility, financial problems, etc. -- are constraining the Career Teacher's work. Most of the Career Teachers (85 percent) have received some training from the Career Teacher Training Centers at Baylor and Downstate; the majority felt this training was very valuable. Most have found the other Training Center services, including conferences, valuable as well. Most (82 percent) are also satisfied with their relationships with the Institutes, and the recommendations for changes do not indicate any consistent problems.

(1) Career Teacher Demographics

Although the original intent of the Career Teacher program was to award grants to institutions proposing a senior tenured member of the faculty as a Career Teacher, the grant structure, which allowed $25,000 in salary, did not encourage senior faculty to apply. In fact, only 13 Career Teachers were tenured at the time of grant award. The distributions of faculty positions and ages as described in Tables 13 and 14 depict the "junior status" of most Career Teachers.

Table 13: Career Teacher Faculty Positions

Position Title	Frequency	Percent
Instructor	4	10.0
Assistant Professor	23	57.5
Associate Professor	10	25.0
Professor	2	5.0
Dean	1	2.5
Total	40	100.0

Table 14: Distribution of Career Teacher Ages

Age Range	Frequency	Percent
30-34	5	12.5
35-39	14	35.0
40-44	7	17.5
45-49	9	22.5
50 and greater	4	10.0
Unknown	1	2.5
Total	40	100.0

Mean = 41.3 years

A comparison of Sponsor faculty position with that of the Career Teachers reveals that the most common institutional arrangement is an assistant professor as Career Teacher with the department chairman as Sponsor.

The academic degrees and medical specialties held by Career Teachers trongly reflect those of their Sponsors, i.e., a large number of psychiatrists. Of the 33 Career Teachers who are physicians, 23 have a medical specialty in psychiatry (see Table 15).

As would be expected, departmental affiliations show the strong psychiatric focus of Career Teacher projects (see Table 16). Four, however, have appointments in Internal Medicine, almost unanimously perceived by Career Teachers and Sponsors as being the "most powerful department" in a medical school.

Table 15: Career Teacher Academic Degree and Medical Specialty

Degree and Specialty	Frequency*	Percent
M. D.	33	82.5
Psychiatry	23	
Internal Medicine	9	
Other	6	
Ph. D.	6	15.0
Psychology	4	
Pharmacology	2	
Ed. D.	1	2.5
Total	40	100.0

Table 16: Career Teacher Departmental Affiliations during Grant

Department	Frequency
Psychiatry (6 with joint appointments)	32
Pharmacology (3 with joint appointments)	5
Family Medicine (4 with joint appointments)	4
Medicine (3 with joint appointments)	4
Community/Public Health (2 with joint appointments)	3
Opthamology (1 with joint appointments)	1

*Numbers shown are for highest degree; two M. D.'s with Ph. D.'s in Pharmacology and three M. D.'s with Masters Degrees in Public Health are counted as M. D.'s only. When a Career Teacher has more than one medical specialty, both are counted and reflected in the chart.

It was no surprise to find (see the specific data displayed in Tables 17 and 18) that Career Teachers are distributed between two groups in terms of their pre-grant knowledge of and interest in substance abuse. One group had little previous knowledge, interest or experience in the substance abuse field, and hence the grant was viewed as an opportunity for personal development and the assumption of a substance abuse leadership role -- often not clearly defined. The other group had some knowledge, interest, experience, and credibility in the field and so the grant provided the Career Teacher with the opportunity to further his knowledge, and provided time to develop curricula or clinical substance abuse programs.

Table 17: Pre-Career Teacher Grant Substance Abuse Knowledge*

	High	Moderate	Low	Minimal
Drug Abuse	10	10	4	6
Alcohol Abuse	8	8	8	6

Table 18: Pre-Career Teacher Grant Substance Abuse Interest*

	High	Moderate	Low	Minimal
Drug Abuse	11	10	6	3
Alcohol Abuse	9	9	4	8

*Includes only Career Teachers with two or more years of grant activity.

In Tables 17 and 18 the data are skewed toward the high and moderate end for both prior knowledge and interest. However, the percent of time spent by most Career Teachers in substance abuse prior to the grant award was relatively small. As Table 19 shows, 45 percent of all Career Teachers spent less than 20 percent of their time before the grant in alcohol abuse or drug abuse. In fact, one third of the Career Teachers spent less than five percent of their time before the grant in this field.

Table 19: Pre-Career Teacher Grant Time Spent in Substance Abuse

Percent of Time in Alcohol Abuse	Percent of Time in Drug Abuse					Total
	0-5	6-20	21-40	41-60	>60	
0-5	13	1	2	3	2	21
6-20	1	3	1	1	3	9
21-40	2	0	0	0	0	2
41-60	1	0	2	3	0	6
> 60	1	0	1	0	0	2
Total	18	4	6	7	5	40

Despite this seemingly small level of involvement, 59 percent of the Career Teachers indicated that, prior to the grant award, they did expect to pursue careers in substance abuse; 31 percent had no such plans, and ten percent were undecided.

(2) Career Teacher Acitivities

The original and revised guidelines for the Career Teacher Program (see Appendix 1) do not clearly identify activities which are necessary or essential for all Career Teachers to pursue. However, two activities are implied as integral to the success of any project: (1) self-training in substance abuse; and (2) curriculum development and implementation. Almost all Career Teachers have in some way pursued these two activities, but with varying levels of effort and positive outcome. Many Career Teachers pursue alternative activities, such as development of a clinical program or community consultation, as an indirect means of self-development or often as a means of gaining the necessary credibility to affect the curriculum of their school. The activities pursued are in large part determined by previous interests. Those who are research oriented, for example, tend to define their tasks as a Career Teacher in terms of research activities.

Table 20 describes the distribution of time spent in various activities during each of the three years of the grant.* As might be expected, a full 36 percent of Career Teachers' time has been devoted to self-training (in substance abuse and curriculum development) during the first year of the grant, but this has diminished to less than

*Most Career Teachers could not recall the time distributions accurately. Often the sum of percents was greater than 100%, in which case all numbers were adjusted to a base of 100%, maintaining the same numerical ratio between any two activities.

Table 20: Use of Career Teacher Time (Percent) by Activity and Year*

	Year 1	Year 2	Year 3	Average
1. Self-Training in Substance Abuse	30.2	18.9	12.8	20.6
2. Self-Training in Curriculum Development	6.1	7.4	5.9	6.5
3. Teaching and Curriculum Development -- Didactic	10.3	15.2	15.8	13.8
4. Teaching and Curriculum Development -- Clerkships	7.1	7.9	7.5	7.5
5. Clinical Services	14.5	14.7	15.2	14.8
6. Research	8.9	11.3	13.9	11.3
7. Consultation within the Medical School	5.1	4.6	4.7	4.8
8. Consultation Outside the Medical School	4.2	4.7	5.2	4.7
9. Other Student Contact	3.7	3.8	4.2	3.9
10. Continuing Education	2.5	2.9	3.7	3.0
11. Joint Career Teacher Activities	2.3	3.5	5.0	3.6
12. Other	5.1	5.3	6.0	5.5

*This question was asked only of Career Teachers with two or more years of grant activity.

19 percent by the third year. It should be noted that the larger share of this time (30.2 out of 36.3 percent) has been devoted to training in substance abuse, with the balance being devoted to curriculum development training. In addition to the Training Centers, the most frequently used resource has been treatment programs, both independent and medical school related, but training also has included use of specialized research institutes, conventions and seminars, and visits with other Career Teachers. The most frequently visited institutes have been the Haight Ashbury Free Clinic in San Francisco and the Addiction Research Foundation.

An average of 21 percent, 15 percent and 11 percent of Career Teachers' time has been devoted to teaching/curriculum development, clinical services and research, respectively. These numbers are deceiving in that they are an average and do not accurately represent a "typical Career Teacher". Most Career Teachers are significantly involved in one or two of these activities and only marginally, if at all, in a third. Table 21 indicates how the two-year Career Teachers have allocated their time among these three primary activities.

Table 21: Career Teacher Emphasis

Activity	Primary	Second	Third
Teaching/Curriculum Development	19	8	3
Clinical Services	6	13	11
Research	8	7	15

Most other activities have been pursued to a small and varying extent. Consultation, particularly outside the medical school, takes on primary importance for some Career Teachers, and varies from local detox centers to governors' councils on drug abuse. In fact, at least five Career Teachers with more than two years of grant activity have averaged over ten percent of their time in outside consultations. Table 22 summarizes the contacts made by those Career Teachers with more than two years of grant activity and with various extra-institutional agencies.

Table 22: Number of Career Teachers Having Extra-Institutional Contacts by Type of Contact

	Number of Career Teachers*
1. Local Substance Abuse Treatment Program	28
2. Single State Agency/State Alcoholism Authority	25
3. Local Substance Abuse Councils	19
4. Other University/Graduate Schools	19
5. Public or Parochial School System	18
6. Other School within University in which Medical School is located	17
7. Colleges/Junior Colleges	12
8. Other Medical School	9

*The sample size for this question is 30, since it was not asked of Career Teachers with less than two years of grant activity.

As stated in the introduction to this report, one of the primary purposes of the grant is to have an impact upon medical students, through direct educational contact and other student-related activities. In fact, 23 of 37 Career Teachers reporting these data indicate that they have spent more than 20 percent of their time with students (two Career Teachers have spent less than five percent and four Career Teachers greater than 50 percent). The student contact rate among Career Teachers is even higher. Thirty-three of the 37 Career Teachers have contact with 100 percent of the pre-clinical students (the other four Career Teachers have no contact). The following table summarizes Career Teacher student contact.

Table 23: Career Teacher Student Contact

Pre-Clinical Students	Clinical Students			
	All	Some	None	Total
All	17	9	7	33
Some	0	0	0	0
None	2	2	0	4
Total	19	11	7	37

Of the 33 Career Teachers having contact with all pre-clinical students, 17 also have contact with all clinical students. Although seven Career Teachers have no contact with clinical students, they do have contact with all pre-clinical students.

All Career Teachers were asked to provide information on the substance abuse teaching they have done during their grants. Nineteen responded, and descriptions of their medical school teaching, continuing education, and other training are included in Volume II of this report. Table 24 summarizes the information provided by these Career Teachers on the trainees who have attended the sessions. Close to 9,000 medical students and approximately 2,000 practicing physicians were among those attending; over 5,000 other mental health and health workers were also involved. Because reports were received from only 19 Career Teachers (many of the others had not kept adequate records), and because some of these could only report recent training sessions, the total of 19,698 trainees probably falls far short of the actual number reached by the 40 Career Teachers during their grants.

(3) Career Teacher Program Perceptions

This section analyzes the perceptions of Career Teachers in terms of: (1) the factors facilitating and/or constraining project outcomes; (2) Training Center effectiveness and future Training Center roles; (3) relationships with NIAAA and NIDA; (4) an assessment of the goals and objectives of the program; and (5) recommended program changes.

Table 24: Number of Trainees by Type of Training Session and Category of Trainee*

Category of Trainees	Type of Session**			
	Medical School Course (401)	Continuing Education Seminar or Course (59)	Workshop/ Seminar/ Community Meeting (279)	Total
Medical Student	8,741	2		8,743
Intern/ Resident	342	130		472
Physician		1,714	279	1,993
Other Mental Health/Health Professionals	439	488	1,430	2,357
Mental Health/ Health Paraprofessionals			2,944	2,994
Community			695	695
Other	1,034	391	1,069	2,494
Total	10,556	2,725	6,417	19,698

*Based on information provided by 19 Career Teachers. Most reported training delivered from the beginning of their grants; some, however, could only provide data on recent sessions. Because of the difficulties in obtaining names and addresses of trainees and the low response rate, the mail survey to a sample of these trainees did not yield reliable outcome data. The 35 responses received, however, were all generally positive regarding the training.

**(49) = number of sessions. An additional five medical school courses, ten continuing education seminars, and 34 other sessions were reported. However, numbers of trainees for these sessions were unavailable.

(a) Facilitators and Constraints

Table 25 summarizes the responses of the Career Teachers in identifying facilitating and/or constraining factors. Figure 3 lists all additional comments received. The wide variety of items mentioned as personal and institutional facilitators or constraints tends to support the notion that a Career Teacher project is a product of the institution, Sponsor and Career Teacher and as such is highly idiosyncratic. There are, however, a number of common "threads" that emerge from the data. Among the facilitators, two parallel dominant trends emerge. "Support" from the administration, the department head, and other individuals comprises a large number of responses. Another large set of responses centers around the Career Teachers' credentials, commitment and charisma.

An examination of the constraints identified in Table 25 clearly shows that a lack of curriculum flexibility is most frequently perceived as constraining project outcomes. However, the "other" comments in Figure 3, although stated in a variety of ways, indicate that institutional barriers -- financial, facilities, required duties, etc. -- are an even greater constraint. Again, from field observation, it was noted that in many projects, even those with a strong Sponsor and administrative support, the Career Teacher has been constrained by institutional inertia or inflexibility.

Table 25: Facilitators and Constraints on Project Outcomes Identified by Career Teachers

	Facilitator	Constraint
Support from Medical School Senior Administrators (Dean, etc.)	8	3
Support from Department Head	13	3
Curriculum Flexibility	5	8
Changes being Made in Curriculum	2	6
Support from Other Particular Individuals	12	1
Existing Interest and Work in Substance Abuse	8	3
Student Interest	9	2
Three Years of Full-Time Effort Available	8	3
Career Teacher's Credentials and Credibility	11	4
Career Teacher's Commitment	11	1
Career Teacher's Charisma	8	0
Sponsor's Commitment and Interest	9	1
Sponsor's Credibility or Credentials	8	2
Career Teacher's Curriculum Development Skills	2	0
Career Teacher's Support Materials and Resources due to Training Centers and Career Teacher Group	6	0
Other	13	11

Figure 3: "Other" Facilitators and Constraints*

Facilitators	Constraints
"Style" of Career Teacher	Disruption in Chairman/Sponsor position
Ability to work with diverse groups	No one to share experience with
Community organization skills	Other responsibilities
Positions on many state committees	Too many service responsibilities, not enough teaching time
Clinical experience	Lack of time to do all that is required to be a Career Teacher and a regular faculty member
Involvement with treatment program	Available time limited
Freeing up of standard faculty responsibilities	Clinical responsibilities constrain travel and ability to concentrate on teaching and curriculum development
Positive attitude at school toward "doing something" about substance abuse	Time distraction -- need to attend to financial crisis, management problems at clinical facility
Curriculum time available in Behavioral Sciences	No time to travel to meetings
Need for teaching in substance abuse	Fiscal limitations
Need evidenced by patient population	Lack of money at medical school
Community support	Money
Grant to Career Teacher from Single State Agency	Need to supplement salary
Lack of state resources pointed to need for training	Lack of treatment facilities and other research and training facilities
Training Centers	Lack of inpatient facilities
Career Teacher meetings	School is short of space and money for clinical facilities
Team approach	Instability of new school facing financial/political problems
Serendipity	Inertia of medical school policy
	Difficulty of Psychiatry to relate to other clinical departments
	Lack of departmental support (e.g., office, secretary, dictating equipment, etc.)
	Small faculty with little substance abuse experience
	Priorities of department
	Competition for teaching time
	Changes in length of curriculum
	Not being located at main teaching hospital

*All additional factors identified by Career Teachers are listed; minimal editing of the original comments was done.

(b) Perception of Training Center Effectiveness and Training Center Roles

This section summarizes the responses of Career Teachers in describing their relationships with each of the Training Centers. These relationships will be discussed in terms of: (1) training received at each Training Center; (2) technical assistance received from the Training Centers; (3) pre-application Training Center involvement; (4) other areas of Career Teacher involvement with the Training Centers; (5) an overall assessment of Training Center activities; and (6) other related Career Teacher Activities.

i. Career Teacher Training Provided by Training Centers

Among the 39 Career Teachers contacted, ten have received training at Baylor, 13 at Downstate, ten at both Training Centers, and six have not used either facility for training. The 29 two-or-more years Career Teachers have used both Training Centers for a total of 663 training days -- 394 days at Baylor and 269 at Downstate. Perhaps more interesting is the variation of use among Career Teachers. At Baylor 10 of the 11 Career Teachers have attended for an average of 25 days; one has attended for 150 days. At Downstate, average time for 13 Career Teachers has been 12 days; one has attended 120 days. Shorter visits resulted in less utilization of Downstate as a training site, even though it has been used by more Career Teachers.

Approximately 70 percent of the respondents found their Training Center experiences "very valuable", 15 percent consider the training "somewhat valuable", and 15 percent indicate dissatisfaction. Interestingly enough, the above distribution is the same for both Training Centers.

The majority of those who have attended Baylor were seeking knowledge about the field of substance abuse in general, supported by a strong interest in pharmacology, sociology, and research, including current literature in the field. The second most frequently cited reason for attendance is acquiring didactic teaching techniques and skills -- and those who have attended both Training Centers think Baylor is better at providing training in didactic teaching skills than Downstate. Downstate attendees have focused on learning about drug and alcohol treatment programs, and, as several Career Teachers indicated, "to see what was going on in drugs and alcohol". Few Career Teachers look for "formal training" at Downstate, but rather have looked upon the Training Center as a "facilitator or arranger" of experiential training opportunities. Virtually all Career Teachers are well satisfied with the individualized schedules provided at each Center, but although some training activities have been planned to allow for simultaneous participation by two Career Teachers, some would have welcomed more Career Teacher sharing and interaction.

ii. Technical Assistance Provided by Training Centers

In addition to receiving training, the 30 two-or-more years Career Teachers have looked to the Training Centers for technical assistance.* Six Career Teachers have used Baylor, five have used Downstate, four have used both, and 13 Career Teachers have used neither for this purpose.** In almost every case, the technical assistance from Baylor has come in the form of its bibliographies, newsletter, and videotapes. Technical assistance from Downstate has been more general -- e.g., a critical review and analysis of materials for inclusion in two books under preparation, assistance in setting up a research plan for a Career Service Award -- and has tended to respond to "particular items of interest" to a Career Teacher on an as-needed basis. In all cases but one, Career Teachers have found Training Center technical assistance "very valuable".

iii. Pre-Application Training Center Involvement

Data were collected from 39 Career Teachers concerning their utilization of the Training Center in the preparation of their Career Teacher grant applications. Table 26 summarizes these data.

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*Data on technical assistance use of Training Centers was not obtained from the less-than-two-years group.

**Two Career Teachers did not respond to this question.

Table 26: Use of Training Centers in Pre-Application Process

Training Center	Number
Baylor	3
Downstate	11
Both	2
Neither	23
Total	39

An examination of Career Teacher responses indicates that for most Career Teachers, the pre-application process was idiosyncratic, ranging from one who was hired as a Career Teacher after the grant had been given to an institution and the position vacated, to another who spent two years working at and waiting for grant approval, to a third Career Teacher who was recruited as a Career Teacher by the Downstate staff at a Career Teacher conference.

Those who did work with Training Centers in grant preparation found them to be helpful as a referral source to NIAAA/NIDA, and as reviewers of their proposed goals and objectives.

iv. Other Involvement with Training Centers

In addition to training, technical assistance, and pre-application assistance, six Career Teachers have established other relationships with Baylor, five with Downstate, and three with both. The specific involvement with Baylor has involved: (1) the NIDA Evaluation Task

Force and development of questions and modules for the national board exams; (2) the development of seminars for continuing education programs; (3) the preparation of audio-visuals; and (4) the use of special laboratory research facilities. With Downstate, additional involvement has focused on: (1) the special coordinating activities among Career Teacher Task Forces; and (2) the preparation of books and other publications.

Of the six Career Teachers working with Baylor, four have found this involvement "very helpful", and two consider it "somewhat helpful". Among the five involved with Downstate, three find Downstate "very helpful", and two "somewhat helpful". The three who have worked with both have found them "somewhat helpful".

v. Overall Assessment of Training Center Activities

Each of the 39 Career Teachers was asked to provide an overall assessment of Training Center usefulness and suggest recommended future Training Center roles. Of the 35 who responded, 16 felt that the Training Centers have been "very useful", 14 report them "somewhat useful", four are dissatisfied and can see no role for Training Centers, and one finds one center "very useful" and the other "not useful".

Table 27 summarizes the frequency with which potential Training Center roles were mentioned. Three Career Teachers specified their preference for one Training Center; most others indicated no preference. The roles indicated in Table 27 were offered by Career Teachers in response to an open-ended question.

In almost all cases, Career Teachers suggest Training Center roles consonant with their previous use of the Training Centers. Those who have used Training Centers for self-development and training suggest such an ongoing role. Those who have gone to Downstate recommend continued provision of clinical experiences; those using Baylor suggest roles involving preparation of learning packages and curriculum materials. These data tend to reinforce Career Teacher satisfaction with Training Center activities.

Thus, Career Teachers have responded positively to their involvement with each of the Training Centers, and suggest Training Center roles that emerge from this involvement. Whether this level of involvement warrants continuation of the Training Centers at the same level of funding and with the same operational responsibilities is discussed in the Recommendations section of this report.

vi. Other Related Career Teacher Activities

In addition to involvement with the Training Centers, data were collected on two additional significant Career Teacher activities:

Table 27: Future Training Center Roles

Role	Frequency of Response
Facilitate and coordinate Career Teacher Activities (meetings, conferences, task forces, etc.)	14
Provide training for new, current, and former Career Teachers	14
Provide professional support and serve as a general professional resource, including the provision of specialized expertise	7
Prepare written materials including curriculum materials, learning packages, manuals, guides, etc.	5
Provide opportunities for experiential and clinical activities on an on-going basis	4
Prepare bibliographies and provide other references on an as-needed basis	4
Perform a needs assessment for Career Teachers and assist in defining educational goals for Career Teachers	3
Award advanced credit and/or accreditation for special training	2
Provide funds for former Career Teachers to facilitate ongoing program participation	2
Provide a "political base" for Career Teacher support	1
Coordinate "substance abuse activities" with non-Career medical schools	1
Assist Career Teachers in the pre-application process	1
Provide special facilities (such as research laboratories) as needed	1

(1) participation at Career Teacher conferences; and (2) relationship of Career Teachers with AMERSA.* The following discussion summarizes these involvements.

Since inception of the Career Teacher Program, 11 Career Teacher conferences have occurred, ten of them prior to the data collection. Out of a possible total of 285 attendees at these conferences, there have been 250 Career Teacher attendees -- an average of 88 percent participation. These conferences provide the opportunity to meet with other Career Teachers to share experiences and to keep up with new knowledge in the substance abuse field. Of the thirty-seven respondents, 28 find the meetings to be "very valuable" to them as Career Teachers, eight indicate "some value", and one respondent considers them "not valuable". However, that last respondent has a 75 percent attendance record. A large majority also indicate that the conferences were interesting to them professionally. Two indicate the contrary; one has attended every conference, the other, 60 percent of the conferences held since becoming a Career Teacher.

Among all Career Teachers there is little agreement as to how Career Teacher conferences could be improved. This is understandable because of the high participation and interest rates, and

*AMERSA is the Association of Medical Educators and Researchers in Substance Abuse, currently composed entirely of individuals from the Career Teacher Program.

overwhelming agreement as to the usefulness of these conferences. Those suggestions that were made focus on making meetings more responsive to Career Teacher needs, providing opportunities for increased interactions among Career Teachers, and increasing opportunities for Career Teachers to assist in conference planning.

A second interesting and important development deals with the Career Teachers and their relations with, and perceptions of, AMERSA. Among the 30 two-or-more years Career Teachers, 20 are AMERSA members, three are officers, and eight serve on committees. Although a small number of Career Teachers (five reported) find AMERSA duplicative of other activities, and, at this time, ineffective and ineffectual, the vast majority of Career Teachers support AMERSA. They feel it provides them with a "cohesive political power base" and offers medical school faculty interested in substance abuse, a mechanism to establish an identity and influence medical education. It is also seen as a mechanism for facilitating continued involvement of Career Teachers after grant completion, since AMERSA is a separate entity from NIAAA/NIDA and the Training Centers. Because it is such a separate entity, it is seen as an organization that provides credibility for Career Teachers, and legitimizes the concept of a Career Teacher in a medical school context.

(c) NIAAA and NIDA Relationships

The Career Teachers' relationship with the two Institutes (NIAAA and NIDA) after the award of the grant has reportedly been minimal and primarily of an administrative nature. Only six Career Teachers report contact with the Institutes six or more times a year. The primary reason given for contact with the Institutes is administrative, with very few contacts being made for substantive matters (curriculum development, treatment approaches, etc.). Satisfaction among the Career Teachers with their Institute relationships is reported to be "very good" (13 of 28 respondents) or "good" (10 of 28) with only a few Career Teachers indicating dissatisfaction. Recommendations for improvement of the relationship were solicited from the Career Teachers. Figure 4 lists the comments received, in unedited form. These comments do not provide much agreement concerning recommended improvements. Individual comments, though, may be useful in future planning and management of the program.

(d) Assessment of Goals and Objectives

Career Teachers were asked to review four long-term goals of the Career Teacher program:

- Improve the training medical students receive on drug abuse and alcohol abuse.
- Prepare medical schools to provide leadership, advanced training, consultation, and coordination in the addictions field, within the institution and to the community at large.

Figure 4: Career Teacher Recommendations f[illegible]es in Their Relationship with NIAAA and N[illegible]A

Recommendations	
Maintain personal contact	Have directors attend meetings
Provide more direction and coordination	Too many mixed messages
Provide coordination of NIDA and NIAAA programs	Need consistency, clear objectives, similar purposes across NIDA/NIAAA
Base grants on previous record of accomplishment and career commitment	Ongoing solid commitment to program from NIAAA
Improve Career Teacher selection process	Identify some individual with technical knowledge useful to Career Teacher
Pay more money to get good people	Set up training centers responsive to Career Teacher needs
Pay for buying audio-visual equipment	Use other Career Teachers to advise new applicants and Career Teachers
Help Career Teachers get money for training and treatment sites in medical schools	Should maintain stricter accountability -- NIAAA and NIDA have been ripped off in trying to be non-directive
Provide more support for AMERSA in terms of money	

- Change doctors' attitudes and knowledge about substance abuse.

- Improve the capability of the health care delivery system to deal effectively with the problems of addiction.

Twenty-five Career Teachers responded to questions about these goals. Among this group there was strong support for the notion that the Career Teacher program will contribute to the accomplishment of these goals (see Table 28).

Table 28: Career Teacher: "Do you believe that the Career Teacher Program will contribute to the accomplishment of these goals?"

Goal	Yes	No	Don't Know
a. Improve Training	24	1	0
b. Prepare Medical Schools	23	1	1
c. Change Doctors' Attitudes	24	0	1
d. Improve Health Care System	21	2	2

Tables 28 and 29 indicate that the Career Teachers believe that the Career Teacher Program is a practical means of achieving the goals established. This is less true of goals b, c, and d than of goal a, where 19 of 25 respondents indicate that it is fully appropriate. Many Career Teachers believe that alternative and presumably more effective means exist for accomplishing these goals. The specific recommendations for alternative approaches are quite varied for goals a, b,

and d. Many Career Teachers suggest that an appropriate alternative or supplemental approach to these goals would be continuing medical education; eight of 14 alternative approaches recommended for this goal include continuing medical education.

Table 29: Career Teacher: "Is the Career Teacher Program a practical and rational means of reaching these goals or would other approaches be more appropriate or effective?"

Goal	Practical/ Appropriate	Other Approaches	Both	Don't Know
a. Improve Training	19	0	4	2
b. Prepare Medical Schools	13	6	4	2
c. Change Doctors' Attitudes	12	9	3	1
d. Improve Health Care System	11	10	3	1

Career Teachers were also asked to evaluate 13 objectives commonly identified for individual Career Teacher projects. Each Career Teacher assigned a weighted ranking of importance to the objectives and then indicated the level to which he or she felt Career Teacher projects are meeting these objectives. These numbers were averaged across all respondents for each objective (see Chapter II, Section D).

The results of this analysis are displayed in Table 30. The development of medical school curriculum in substance abuse and the establishment of a substance abuse expert at each school emerge as the top priorities for Career Teachers. Working with medical school

Table 30: Evaluation of Project Objectives*
(Career Teachers)

	Relative** Weighted Value	Rank	Achievement Level 0 = No achievement 100 = Achievement
1. Establishment of one knowledgeable person in substance abuse in the medical school	105.5	2	71.6
2. Development and adoption of undergraduate medical school curriculum	123.9	1	56.1
3. Development and adoption of substance abuse curriculum and exposure for interns and residents	95.6	3	40.5
4. Teaching of courses/didactic sessions in substance abuse in the medical school	91.1	4	70.8
5. Planning and implementation of continuing education sessions for practicing physicians	62.8	10	42.7
6. Planning and implementation of sessions for other health care personnel	35.1	13	36.9
7. Planning and implementation of courses or sessions for students in allied health professions, behavioral sciences	45.1	12	31.9
8. Development and supervision of clerkships and other clinical exposures for medical students	86.9	6	42.5
9. Carrying out of research in substance abuse	55.3	11	35.2
10. Teaching consultation in substance abuse to other faculty	65.1	8	32.9
11. Clinical consultation in substance abuse	63.2	9	42.6
12. Development of individual Career Teacher long-term career commitment to medical education in substance abuse	81.8	7	62.2
13. Encouragement to students and practicing physicians to become involved in substance abuse prevention/treatment/research teaching	90.2	5	45.0

*Based on the responses of 20 Career Teachers.
**Numbers have no significance other than as a basis for comparison to each other.

students follows, and objectives which do not directly relate to medical school education are ranked lowest. The development of a personal long-term commitment to medical education in substance abuse was ranked in seventh place. Most achievement levels are in the moderate range; the establishment of an on-campus expert and didactic teaching are rated somewhat higher. There is a noticeable disparity between the weight and achievement level assigned to the development and adoption of undergraduate and graduate curriculum (objectives 2 and 3). Although these were rated one and two in importance, they have had only low to moderate achievement, according to the Career Teachers.

Career Teachers were next asked to assess the following roles as "essential", "important" or "unimportant" for Career Teachers:

- Curriculum development/teaching;
- Clinical services, supervision, and consultation;
- Research in substance abuse;
- Visibility as a role model for students;
- Exposure to other faculty;
- Exposure to the medical community (publishing, societies, etc.).

With the exception of the first role, curriculum development -- which almost all Career Teachers viewed as "essential" -- all roles were viewed as "important" or "essential" by most Career Teachers.

Visibility to students and faculty are considered "essential" by nearly half of those responding. The need for Career Teachers to engage in research, although considered "important" by most, is disputed by approximately one-third of the Career Teachers.

e. Recommended Program Changes

Career Teachers were asked to make recommendations for the Career Teacher program regarding (1) length of grant period; (2) amount of annual award; (3) selection criteria -- Career Teacher and sponsoring institution; and (4) required Career Teacher activities.

A variety of recommendations were made about program length; no one recommended anything less than three years. One Career Teacher suggests making the award similar in length to the five to ten-year "Career Scientist Award", but most recommend a grant period of four to five years.

Career Teachers believe that more money, particularly for salary, is needed. However, one Career Teacher believes the level is appropriate and another believes it should be reduced by 30-50 percent since Career Teachers devote only that much time to the project.

Although the recommendations for Career Teacher qualifications are varied, some consistent themes emerge. Most include prior knowledge, experience and/or commitment to the substance abuse field, although one Career Teacher recommends that a diversity of

backgrounds would be beneficial to the program, and others believe that qualifications such as teaching ability may be more important. The other dominant theme is a recommendation for a Career Teacher with "clout", measured by either faculty tenure or position on significant committees, especially curriculum committees.

The key word in the recommendation for sponsoring institutions is "commitment", which is mentioned in eight of 17 recommendations. Although the other recommendations do not use the word "commitment" specifically, they do indicate that evidence of support from the sponsoring institution is essential. Some Career Teachers also suggest that the sponsoring institution have active clinical, teaching, or research programs in substance abuse as evidence of commitment to the field.

Recommendations as to what activities should be required or recommended are varied, but generally include: (1) specific training experiences such as work in substance abuse programs or a rotation through one of the Training Centers; and (2) requirements for the amount and type of teaching that should be done. Other activity recommendations include research, clinical service and community involvement.

2. Project Outcomes

As described in the previous section, the Career Teachers' approaches to the accomplishment of the program goals and their own

project objectives have varied greatly. The primary activities pursued have been self-training, teaching/curriculum development, clinical service, and research. The results of these activities -- the outcomes -- are documented in this section and form the basis for the recommendations that follow.

Outcomes are discussed in four categories: (1) human capital development, which focuses on changes in the Career Teacher's knowledge, interest, and career intentions; (2) institutional changes which include changes in curriculum, changes in individuals at the institution, and changes in institutional programs; (3) extra-institutional changes, primarily as a result of Career Teacher consultations; and (4) products of the project, including curriculum packages, books, articles, and other professional products.

a. Human Capital Development

The set of outcomes associated with human capital development describes changes in the Career Teacher as a medical school faculty member. Given the prominent role of self-training in the grant program, it would be expected that Career Teachers would evidence positive changes in knowledge. Knowledge of both alcohol abuse and drug abuse does show marked levels of increase (see Tables 31 and 32). All Career Teachers who did not perceive themselves as highly knowledgeable prior to the grant indicate an increase in knowledge to

at least the "moderate" level in both drug and alcohol abuse. In addition, reported interest in drug abuse and alcohol abuse has increased such that all Career Teachers now indicate moderate or high interest levels (see Tables 33 and 34).

Table 31: Change in Alcohol Abuse Knowledge*

	Knowledge Prior to Grant	Present Knowledge
Minimal	6	0
Low	8	0
Moderate	8	6
High	8	24
Total	30	30

*Does not include Career Teachers with less than two years of grant activity as of September, 1976.

Table 32: Change in Drug Abuse Knowledge*

	Knowledge Prior to Grant	Present Knowledge
Minimal	6	0
Low	4	0
Moderate	10	9
High	10	21
Total	30	30

*Does not include Career Teachers with less than two years of grant activity as of September, 1976.

Table 33: Change in Career Teacher Interest in Alcohol Abuse*

	Interest Prior to Grant	Present Interest
Minimal	8	0
Low	4	0
Moderate	9	4
High	9	26
Total	30	30

*Does not include Career Teachers with less than two years of grant activity as of September, 1976.

Table 34: Change in Career Teacher Interest in Drug Abuse*

	Interest Prior to Grant	Present Interest
Minimal	3	0
Low	6	0
Moderate	10	7
High	11	23
Total	30	30

*Does not include Career Teachers with less than two years of grant activity as of September, 1976.

The change in involvement of Career Teachers in substance abuse is a significant outcome measure. Prior to grant award, only one-fourth of the Career Teachers were spending over 20 percent of their time on alcohol abuse; currently, nearly three-fourths are. Before becoming Career Teachers, 18 of 40 Career Teachers were spending very little time (five percent or less) on drug abuse; now,

only seven are, and the majority spend more than 20 percent of their time on this area. Tables 35 and 36 detail the full distribution of present and prior percent of time in substance abuse.

Table 35: Career Teachers' Present and Prior Percent of Time in Alcohol Abuse

Percent of Time Prior to Grant	Present Percent Time					Total
	0-5	6-20	21-40	41-60	> 60	
0-5	5	3	7	2	4	21
6-20	1	0	3	4	1	9
21-40	0	0	0	1	1	2
41-60	0	1	1	1	2	5
> 60	1	0	0	1	1	3
Total	7	4	11	9	9	40

Table 36: Career Teachers' Present and Prior Percent of Time in Drug Abuse

Percent of Time Prior to Grant	Present Percent Time					Total
	0-5	6-20	21-40	41-60	> 60	
0-5	4	6	5	2	1	18
6-20	1	1	1	1	0	4
21-40	1	2	2	1	0	6
41-60	0	0	3	2	1	6
> 60	1	0	1	4	0	6
Total	7	9	12	10	2	40

Another useful statistic regarding the change in time spent by Career Teachers in the substance abuse field is the combined change in percent of time spent in drug and alcohol abuse. Thirty-one Career Teachers show an increase in the overall percent of time spent in substance abuse. As shown in Table 37, 21 Career Teachers increased their time in the substance abuse field by more than 25 percentage points.

Table 37: Change in Time Spent in Substance Abuse (Number of Percentage Points)

Percentage Points Changed	< -50	-50 to -26	-25 to -1	0	1 to 25	26 to 50	51 to 75	76 to 100
Number of Career Teachers	2	1	3	4	9	9	8	4

Eight of the ten Career Teachers who have reduced or have not changed the amount of time spent in substance abuse had been spending at least 60 percent of their time in the field prior to the grant.

Changes in career plans were also considered a significant human capital outcome, based on the assumption that the grant award might influence career decisions. Since 26 Career Teachers -- of the 30 with two years of grant activity -- prior to the grant had expected to spend either full or part time on a medical school faculty, it is not

surprising that there has been little change in this expectation. Interesting, though, is the change in emphasis in career orientation. Medical education now takes on a more prominent position among Career Teachers as compared with clinical service or research activities. Prior to receiving the grants, Career Teachers were most likely to stress their clinical work over research and education, although the difference was not great. Now research is de-emphasized and medical education is the primary focus for half of the Career Teachers (see Table 38).

Table 38: Career Teachers' Ranking of Career Emphases

Emphasis	Rank		
	1	2	3
1. Medical Education			
Prior to Grant	10	12	8
Present	15	11	4
2. Clinical			
Prior to Grant	13	8	8
Present	11	11	8
3. Research			
Prior to Grant	11	6	12
Present	8	7	14
4. Other			
Prior to Grant	1	2	0
Present	1	1	0

An additional significant change in career plans is the current intention of the Career Teachers to pursue careers in the drug and alcohol abuse field. Whereas 12 of the 40 Career Teachers had no intention or expectation of a career in the substance abuse field prior to the grant, now, nine of these 12 expect their careers to be involved with substance abuse. Of the four Career Teachers who were undecided as to continued involvement in substance abuse, two indicate that they do plan to continue in this area. One Career Teacher with a previous commitment to a career in substance abuse has changed plans.

Another relevant aspect of human capital development is a change in position, including changes within the medical school, i.e., promotion, and changes in type of position, i.e., non-faculty appointments. Table 39 summarizes the positions held by Career Teachers within the medical school at the time of the grant award and their current status.

Table 39: Change in Career Teacher Position

Position	Frequency Prior to Grant	Current Frequency
Instructor	4	2
Assistant Professor	23	15
Associate Professor	10	11
Professor	2	5
Dean	1	1
Non-Academic Position	0	6

There have been 14 Career Teachers who have been promoted in faculty status, six who have left academic positions for either clinical service or governmental policy-making positions, and three who have moved from associate to assistant professorships.* These figures include three Career Teachers who changed positions after completing a grant of less than two years.

Overall, it does appear that the Career Teacher program has had a positive impact on the individuals who became Career Teachers. There has been a substantial increase in both substance abuse interest and knowledge and interest in medical education, and a definite increase in time spent in the substance abuse field among Career Teachers as a group. In addition, a significant number have made a career commitment to remain in substance abuse. Although there has been a documented change in position among the Career Teachers, it is more difficult to separate the effects of the grant award from the natural promotion cycle within medical schools or to attribute change in position to the Career Teacher grant.

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*These reductions in position are not necessarily demotions since they all involved a switch in schools or departments within schools where requirements may be different.

b. Institutional Changes

Institutional changes are those outcomes associated with the sponsoring institution, excluding those previously described as human capital development. The primary areas of outcome include (1) curriculum changes, (2) changes in Career Teacher Sponsor behavior and interest, and (3) other changes in institutional activities or programming.

(1) Curriculum Change

One of the primary objectives of the Career Teacher program was the development and adoption of curriculum in substance abuse for medical students. As Table 40 indicates, there has been a significant increase in the development and adoption of substance abuse curriculum, with the major share of curriculum changes directly attributable to the Career Teacher grant.

Career Teachers report having emphasized the development of undergraduate required curriculum. Although the changes in required undergraduate curriculum appear to be considerably smaller than the elective hours added, a direct comparison of these is not meaningful. Required hours are typically didactic presentations to an entire class, while electives tend to be clerkships (generally much longer and of a very different nature) which may often by taken by only a few students or none at all.

Table 40: Average Substance Abuse*

Curriculum Type	Pre-Grant	Currently Implemented	Developed by Career Teacher	Developed Because of Grant Activity
1. Undergrad/ Required	4.3	23.1	14.9	2.1
2. Undergrad/ Elective	8.1	50.5	42.1	17.1
3. Post Grad/ Required	1.9	17.9	15.8	0.9
4. Post Grad/ Elective	0.1	21.2	20.6	2.1
5. Continuing Education	3.8	8.7	1.3	0.4
6. Associated Grad Schools	0.3	2.0	1.6	1.1
7. Other	0.0	0.2	0.2	0.0
Total	18.5	123.6	96.5	23.7

Development of curriculum does not necessarily mean that a replicable product has been produced, but rather that a segment of curriculum has been set aside for substance abuse. Since most of the hours documented as having been developed by the Career Teacher are pieces of a course or a single session, formal lecture notes or other curriculum materials are frequently unavailable. Therefore, the curriculum could only be replicated by the Career Teacher. Similarly, electives -- usually clerkships -- are not easily repeated without the Career Teacher, since it is often the Career Teacher's expertise in clinical service that forms the basis of the clerkship, not curriculum material. However, 18 of 30 Career Teachers indicate that at least

50 percent of the curriculum that they have developed would remain "institutionalized" at the sponsoring institution if they should leave. The interpretation of "institutionalized" is that the slot of hours established for substance abuse curriculum would remain even if different substance abuse material were presented. Of those Career Teachers indicating that less than 50 percent of the developed substance abuse curriculum would remain institutionalized, it is generally agreed that the hours would be lost in the strong competition for hours among departments and that no other faculty member would pick up the responsibility.

Since Career Teachers (and Sponsors) report that getting curriculum adopted in their own department is generally easier than in other departments or interdepartmentally, most of the curriculum has been developed for psychiatry courses, the departmental affiliation of 33 Career Teachers. The number of curriculum products listed in the CONSAD catalog of Career Teachers products -- discussed in a later section of this chapter -- although not necessarily indicative of the total distribution of curriculum hours, does provide some estimates by department. Of these, 39 products were developed for use in psychiatry courses, 25 for pharmacology, 16 for community medicine, and eight for internal medicine.

(2) Changes in Sponsor Behavior and Interest

The following two tables (Table 41 and 42) summarize the Career Teacher Sponsors' change in involvement and interest in substance abuse.

Table 41: Change in Sponsors' Involvement in Substance Abuse

Prior Involvement	Sponsor Present Involvement				
	Very	Somewhat	A Little	Not At All	Total
Very	9	1	1	0	11
Somewhat	1	3	6	0	10
A Little	2	3	4	0	9
Not At All	0	0	1	5	6
Total	12	7	12	5	36

Table 42: Change in Sponsors' Interest in Substance Abuse

Prior Interest	Sponsor Present Interest				
	High	Moderate	Low	Minimal	Total
High	9	1	1	0	11
Moderate	1	3	6	0	10
Low	2	3	4	0	9
Minimal	0	0	1	5	6
Total	12	7	12	5	36

Given that Sponsors generally have spent less than five percent of their time on the Career Teacher projects, it is not surprising that little change in interest and involvement in substance abuse has occurred. This may in part be attributable to the perceived roles of Sponsors as described in the previous section, i.e., the Career Teachers and the Sponsors do not see substance abuse involvement as essential. This perception of the Sponsor's role has encouraged neither involvement of Sponsors in substance abuse activities, nor changes in Sponsors' interest and activities.

(3) Other Institutional Changes

In an effort to document outcomes of the Career Teacher program upon the sponsoring institutions, interviews were conducted with influential individuals at each institution. These individuals usually included the dean of the medical school, the chairman of the curriculum committee, the chairman of the Career Teacher's department and others who have knowledge of the Career Teacher Program. These individuals were asked to document changes in faculty attitudes, medical school programs and institutional priorities that were attributable to the Career Teacher project.

In the description of the sponsoring institutions at the beginning of this chapter, the response to a series of six attitude questions was documented (see page 41). In response to the question as to whether

these attitudes have changed as a result of the Career Teacher program, most respondents could not attribute a change to the Career Teacher project. However, it was indicated that there has been a positive change in attitude towards the importance of substance abuse in medical school curricula. In many schools the attitude change has been attributed indirectly to the Career Teacher as a result of the Career Teacher's activities in the various departments within the school.

A variety of other institutional outcomes have been documented that are directly attributable to the Career Teacher. At a number of institutions, clinical substance abuse programs have been started or expanded within the clinical facility of the hospital or within affiliated institutions such as a veterans hospital, ranging from the addition of a few beds for the Department of Psychiatry designated for substance abuse patients to new clinics, such as a pre-natal alcohol clinic. In some cases where clinical programs already existed at the medical school, the Career Teacher has been responsible for initiating other programs in the community or at unaffiliated hospitals.

In one institution, the expertise and activities of the Career Teacher have assisted in the revival and development of a graduate degree program in the addictions. Although most other Career Teachers have been unable -- or have not attempted -- to develop additional

substance abuse degree programs, many have developed lectures and other curriculum for related schools in the university, such as the dental and nursing schools and departments of sociology and psychology.

Other institutional outcomes of the Career Teacher projects are mixed and vary greatly by institution. At a few institutions it was stated that some priorities and/or funding have changed, that clinical procedures had been modified to reflect Career Teachers' research, and that new programs have begun as a result of having had a Career Teacher grant.

Twenty-five sponsoring institutions indicate that there has been an increase in the number of faculty involved in substance abuse, and of those, 13 have also indicated an increase in substance abuse funding -- other than Career Teacher funds -- since the inception of the grant at their institution. Most institutions are not willing to claim that these changes are a direct result of the Career Teacher grant; however, they do feel that the grant has had a positive impact.

(c) Extra-Institutional Outcomes

Most Career Teachers engage in activities outside the medical school, but related to medical education and/or substance abuse. These activities range from consultation for local treatment programs, memberships on governors' councils, and joint activities with SSA's/SAA's, to lecturing at local colleges. In addition, some groups of

Career Teachers have engaged in joint efforts such as the development of substance abuse questions for the national board exams, while others have joined with the Career Teacher Training Centers in research and development of curriculum materials. The scope of this evaluation has not provided for an assessment of the outcomes of these activities; however, most Career Teachers report positive outcomes as a result of these extra-institutional contacts.

(d) Products

Some of the most visible outcomes from many of the Career Teacher grants are the curriculum materials and professional writings developed. A catalog of abstracts of these products and multiple indices for quick access has been developed as part of the CONSAD evaluation of the Career Teacher Program. The catalog is divided into two sections, one for curriculum materials and the other for journal articles and other professional writings. Twenty-four Career Teachers and the two Training Centers have developed and submitted for cataloging 67 items of curriculum material, ranging from videotapes to lecture outlines. Among 17 Career Teachers, 177 journal articles have been produced, although only 109 of these are abstracted in the catalog because the other 68 were unavailable.

3. Analysis of Key Variables

In an effort to determine those factors associated with Career Teacher project outcome, the relationship between these outcomes and the characteristics of the Career Teacher, the Sponsor and the sponsoring institution were examined. The specific outcome measures examined were developed from the data as presented in the previous section and are as follows:

- Human capital outcomes;
  - Percent change in time spent in substance abuse;
  - Change in expectation of a career as a faculty member of a medical school;
  - Change in expectation of a career in substance abuse;
  - Change in the career emphasis given to (1) medical education, (2) clinical service, and research;
  - Change in faculty position;
  - Change in knowledge of substance abuse;
  - Change in interest in substance abuse.
- Institutional outcomes:
  - Curriculum developed by Career Teacher;
  - Change in substance abuse curriculum at the sponsoring institution;
  - Change in Sponsor's involvement in substance abuse;
  - Other institutional changes.

These outcome measures were cross-tabulated with a series of potential explanatory variables. As explained in the evaluation methodology (Chapter II), only nine cross-tabulation tables were found to have any meaningful (non-statistical) significance. Of the 11 outcome measures listed, the following five had some factor with which an association could be identified:

- Change in expectation of a career in substance abuse;
- Change in the career emphasis given to (1) medical education, (2) clinical service, and (3) research;
- Change in interest in substance abuse;
- Curriculum developed by Career Teacher; and
- Change in substance abuse curriculum at the sponsoring institution.

Changes in career expectation with regard to work in substance abuse appear to be related to three factors: (1) the number of years the Career Teacher has been at the sponsoring institution; (2) the Career Teacher's faculty position when the grant was received; and (3) the prior career expectation of work in substance abuse. One of the unexpected associations detected (see Table 43) is that those Career Teachers at their sponsoring institution longer than 11 years who had not planned a career in substance abuse have had a positive change in career expectation, i.e., they decided to move into substance abuse as a career. Alternatively, those at the sponsoring institution

less than 11 years had less of a propensity to change their career intentions. Much of this is explained by the fact that most Career Teachers who have made no change in substance abuse career orientation indicate a pre-grant expectation of a career in substance abuse. This is highlighted in Table 44, which indicates that 23 of 39 Career Teachers did have an expectation of a career in substance abuse prior to the grant and that 22 of these made no change.

Table 43: Relationship Between Changes in Career Teacher's Expectation of Work in Substance Abuse and the Number of Years at the Sponsoring Institution

Change in Substance Abuse Expectation	Years at Sponsoring Institution				Total
	0-5	6-10	11-15	> 15	
No Change	9	11	0	0	20
Positive Change	4	3	4	1	12
Total	13	14	4	1	32

Table 44: Relationship Between Change in Career Teacher's Expectation of Work in Substance Abuse and Prior Expectation of Work in Substance Abuse

Change in Substance Abuse Expectation	Prior Substance Abuse Expectation			Total
	Yes	Not Sure	No	
No Change	22	1	2	25
Positive Change	1	3	10	14
Total	23	4	12	39

Changes in career emphasis among medical education, clinical service, and research appear to be related to the age of the Career Teacher. Of the 12 Career Teachers who indicated a change, seven are under 39 years of age, and among these seven, four made medical education their new primary focus. Among the older group who changed career emphasis, four of the five selected a clinical emphasis.

Change in interest in substance abuse appears to be related to the percent of time spent by the Career Teacher in substance abuse self-training. Those ten Career Teachers who indicated a high interest in substance abuse prior to receiving the grant have spent an average of 18 percent of their time in substance abuse training. The two Career Teachers with a lower indicated interest in substance abuse have devoted six percent and 14 percent of their time to substance abuse training, and have not increased their interest in the field. The remaining 18 Career Teachers who demonstrate a marked increased interest in substance abuse have devoted 29 percent of their time to substance abuse training.

A relationship may also exist between the time spent in substance abuse training and change in a Career Teacher's knowledge of substance abuse. Among the 14 Career Teachers whose pre-grant knowledge of drug and alcohol abuse had been "low" or "minimal", those who spent more of their first year in training report a greater increase in

knowledge (see Table 45). This trend was not, however, statistically significant. Because the Career Teacher grant is essentially a training grant, this relationship is an important one for continued monitoring as the number of Career Teachers grows, to determine whether greater amounts of training are beneficial.

Table 45: Relationship Between Change in Substance Abuse Knowledge and Percent of Time Spent in Substance Abuse Training During First Year of Grant*

Time in Substance Abuse Training	Change in Substance Abuse Knowledge*							Total
	0	1	2	3	4	5	6	
0 - 10%	0	1	0	0	0	0	0	1
10.5 - 20%	0	0	1	0	1	0	0	2
20.5 - 30%	0	0	1	1	0	1	0	3
30.5 - 40%	0	0	0	2	2	0	0	4
40.5 - 50%	0	0	0	0	2	0	0	2
>50%	0	0	0	0	1	1	0	2
Total	0	1	2	3	6	2	0	14

*Change in Substance Abuse Knowledge is the increase from pre-grant to current in the combined drug abuse knowledge and alcohol abuse knowledge score; both are assessed on a 1-4 scale (minimal to high), with the combined scores ranging from two to eight. Only those Career Teachers with a pre-grant score less than six are included.

A revealing association exists between present career emphasis -- medical education, clinical service or research -- and the number of required undergraduate curriculum hours developed by the Career Teachers. Sixty-five percent of those Career Teachers who were emphasizing medical education produced more than 20 hours of

curriculum, whereas only 38 percent of those emphasizing clinical service and research have developed more than 20 hours of curriculum. Table 46 displays the hours of undergraduate required curriculum by primary Career Teacher emphasis.

Table 46: Relationship Between Hours of Required Undergraduate Substance Abuse Curriculum Developed by Career Teacher and Primary Career Emphasis Prior to Grant

Hours of Curriculum	Primary Career Emphasis			
	Medical Education	Clinical Service	Research	Total
0	1	2	4	7
1-10	1	3	0	4
11-20	3	3	1	7
21-30	3	0	0	3
31-40	0	2	1	3
41-50	2	1	1	4
> 50	4	2	1	7
Total	14	13	8	35

An examination of changes in substance abuse curriculum in the sponsoring institutions, however, reveals a different perspective on curriculum changes. The largest percentage increase in required substance abuse curriculum has occurred in those sponsoring institutions where Career Teachers indicate a primary emphasis on clinical services, and a secondary emphasis on medical education. The second

largest increase has occurred where Career Teachers manifest an emphasis on medical education. Eight institutions indicate no required hours in substance abuse prior to the grant. The Career Teachers with a medical and/or a clinical orientation were evenly divided among these eight institutions, and there appears to be no significant difference in amount of hours added -- the three Career Teachers with a medical education emphasis have added an average of 75.5 hours; the three with a clinical services orientation have added an average of 65 hours; one Career Teacher with a combined medical education/clinical services orientation has added 126 hours; the Career Teacher with a combined medical education, clinical, and research interest has added 49 hours.

Initially, it was expected that a larger number of explanatory variables would emerge for each of the Career Teacher Program outcomes. On an individual Career Teacher project basis, it is possible to explain level of outcome in terms of institution-specific and Career Teacher-specific variables. However, at the programmatic level (involving the aggregation of data across projects), variations among factors affecting project outcome are so broad as to prevent the emergence and identification of such factors. This does not imply that project outcomes are either completely random or serendipitous -- rather, available data could not explain the variance among the individual Career Teacher project outcomes.

4. Cost Analysis

This subsection presents an analysis of the costs of the Career Teacher Program. A cost-effectiveness or cost-benefit analysis of this program is not feasible because (1) appropriate measures of effectiveness or benefits are lacking, and (2) cost data on programs with similar focus or outcomes do not exist. The development of a methodology to assess program benefits (e.g., changes in the behavior, attitudes, or even knowledge of medical students or practicing physicians) or measures of effectiveness which would allow comparison with other programs (e.g., a means for determining the quality as well as the quantity of medical school curriculum developed by the Career Teacher) was beyond the scope of this evaluation. More importantly, the costs and outcomes of other efforts to introduce new curriculum into the medical school or to train medical faculty in a new field are not available. An informal survey of several of the institutions visited for this evaluation revealed that none of them had any data on the costs of developing curriculum with which Career Teacher costs could be compared. But while no comparisons of the costs of this program with others can be made, some analysis of these costs is possible and is presented below.

Each school receiving a Career Teacher grant receives up to $25,000 per year in steipend for the Career Teacher (almost all receive

the full amount and some supplement it), plus salary for a half-time secretary or research assistant. They also receive funds for employee benefits for the Career Teacher and secretary and training, travel, equipment, supply, and consultant funds for the Career Teacher, as well as the usual indirect costs. To date, the total of these has averaged $39,571 per funding year. Funds projected for future years for five of the active Career Teachers in this study average $46,434, an indication that the amount of the grant may be rising. The Career Teacher's stipend, however, has remained at $25,000 since the initiation of the program.

Administration of these funds is the responsibility of the school or department, rather than the Career Teacher. As a result, in some schools (especially those with financial problems) the Career Teacher does not receive all of the grant funds (or the benefits of them, such as secretarial time). In others, excessive paperwork or delays are involved.

Excluding the costs of NIDA and NIAAA staff time (which should not differ greatly from other grant programs), the Career Teacher Program has cost $5,031,416 through mid-1977 (for all annual grants awarded prior to October, 1976). This includes $3,838,431 expended for 97 funded Career Teacher-years. Nine grantees have continued to function as Career Teachers without additional funding (using

remaining travel and supply funds) for a total of $8\frac{1}{2}$ additional Career Teacher-years, while receiving their salaries from the sponsoring institutions.

The total figure also includes $1,192,985 for the two Training Centers. The Baylor Training Center grant has totalled $608,356 for its first five years of operation, an average of $121,671 per year. Downstate, which has been in operation for $4\frac{1}{4}$ years, has received $584,629, or $137,560 per year. Figures provided by the Training Centers indicate that the bulk of this money goes to training Career Teachers, including sponsoring the Career Teacher conferences.

The average cost, then, for each Career Teacher for each year he or she is funded is $51,870. Of this, $39,571 goes to the sponsoring institution and eventually to the Career Teacher, with or without supplementation. The remaining $12,299 goes to the two Training Centers to provide the Career Teacher with training, technical assistance, opportunities to meet with other Career Teachers, and other services and, to a much lesser extent, to assist applicants and to develop products of use to a broader audience.

Relating these costs directly to the outcomes described earlier is not possible; however, a summary of the more substantial results of 97 funded Career Teacher-years (or approximately $2\frac{1}{2}$ years per Career Teacher) is provided for comparison. Note that while the

average cost of a grant is very close to what each Career Teacher actually received, the average results listed below do not reflect any one Career Teacher; individual grantees tend to emphasize one area of activity over another and therefore produce greater results in some areas and less in others. Each Career Teacher grant, on the average, resulted in:

- An increase (to at least a "moderate" level and usually a "high" level) in alcohol and drug abuse knowledge;
- An increase in interest in and (in most cases) time spent in substance abuse work;
- In the case of nine of those 12 Career Teachers who were not previously committed to the substance abuse field and 27 of 28 who were, a decision to remain in the field;
- Some movement away from a clinical or research career emphasis toward a focus on medical education;
- Contact, in most cases, with all pre-clinical students and some or all clinical students;
- Presentations of substance abuse training to an average of approximately 1,000 trainees -- medical students, practicing physicians, other health and mental health workers and a variety of other groups;
- Development of 33.7 hours of required medical school curriculum on substance abuse (approximately half undergraduate and half graduate) and 81.5 hours of additional curriculum for medical students and others;
- Some work with local treatment programs and/or state authorities, and possibly other groups;

- Some contribution to positive changes in faculty attitudes regarding the importance of substance abuse and in the number of faculty members working in the field; and

- In many cases, development of journal articles and substance abuse curriculum materials of value to others.

It is possible to do some limited cost-finding analyses with these data, although substantial qualifications must be placed on the figures generated in this manner. Career Teachers indicate that they spent 20.8 percent of their time in teaching and curriculum development. Because most of the courses developed have only been taught once or twice to date, we could consider teaching as a test of the curriculum and take all of this time as curriculum development. Allocating 20.8 percent of the total average grant of $98,928 (2.5 years at $39,571 per year), or $20,577, to curriculum development, we find that the cost per hour of new medical school curriculum developed by Career Teachers (93.4 hours average) is $220. This figure is an average for all curriculum hours -- clinical and didactic, elective and required -- and does not indicate that the curriculum is well-designed, permanent, or well-attended. Career Teachers also indicate that they have devoted an average of 3.0 percent of their time to continuing education programs, which translates to $2,968 in grant funds. Reports on training sessions indicate that those reporting provided a continuing education

course or seminar to an average of 143 physicians and others. The cost for these sessions was therefore $21 per trainee. Again, this provides no indication of the length or quality of the courses offered. Finally, training of the Career Teachers accounts for 27.1 percent of their time and, therefore, their grant money ($26,809 per Career Teacher), plus most of the Training Center costs ($29,825 per Career Teacher), for a total estimated training cost of $56,634 per individual.

B. Training Centers

The Career Teacher Program includes grants from NIDA to two Career Teacher Training Centers to provide training and other supportive services to the Career Teachers. The Training Centers are located at the Baylor College of Medicine in Houston, Texas, and at the State University of New York Downstate Medical Center in Brooklyn, New York. Because they have functioned separately, and are two distinctly different programs, they are described separately in the following section.

1. Baylor College of Medicine -
   Career Teacher Training Center in Addictions

The Training Center at Baylor was the first to be funded, in July of 1972, along with the first Career Teachers. What began as a highly structured training program for Career Teachers has evolved

into a more individualized, but still highly didactic, training program and resource center for Career Teachers and others in the field. The early experiences of the Training Center, which demonstrated the difficulties of freeing Career Teachers for an extended training period, and the diminishing number of new Career Teachers have led the Training Center to broaden its scope to serve the general goal of increased physician education in substance abuse, while retaining the specific function of providing basic training to the Career Teacher group.

a. The Host Institution

The Career Teacher Training Center in Addictions is a program of the Baylor Department of Psychiatry, which provides most of the Training Center's faculty. Psychiatry is one of 23 departments in the medical school, which was established in 1900 and today enrolls over 600 students in its three-year (with an optional fourth year) undergraduate program. The school's clinical facilities presently house nine drug and alcohol treatment programs: a comprehensive drug abuse program; a poly-drug abuse center; a Veterans Administration drug abuse clinic and inpatient drug abuse ward; a clinic for infants of heroin- and methadone-using mothers; an active and nationally-recognized Emergency Service; an inpatient and outpatient alcoholism treatment program; and alcoholism detoxification and rehabilitation wards at the Veterans Administration hospital. The faculty is involved in approximately $600,000 worth of clinical research in substance abuse.

Baylor provides an office suite which houses the Training Center secretary and library and regularly assigns space in the Department of Psychiatry Library for didactic sessions. Baylor also supports a major audio-visual education component, which makes available to the Training Center its Learning Resources Center.

b. Training Center Staff

The Training Center Staff has usually included a Director, a Co-Director, a Coordinator, a Librarian, a part-time Videotape Coordinator, and administrative/clerical staff in addition to 20 or more faculty members who serve on a part-time, as-needed basis. The grant provides partial support for approximately half of these faculty members.

Director of the Training Center since its inception has been Joseph C. Schoolar, M. D., Ph. D., who devotes approximately 20 percent of his time to the Center. Dr. Schoolar is Professor of Psychiatry and Pharmacology and Director of the Texas Research Institute of Mental Sciences. He has been active in research on the actions of dependency-producing drugs since 1955 and has been treating alcohol and drug abuse since 1961. Drug and alcohol activities account for approximately 45 percent of his work today.

Alex D. Pokorny, M. D., has served as the Center's Co-Director from its beginning. A tenured Professor of Psychiatry, Dr. Pokorny

was Acting Chairman of the Psychiatry Department when the grant began and is now Vice-Chairman. He has been active in the treatment of alcoholics since 1953 and has since begun alcoholism research and the treatment of drug abusers. Alcohol and drug activities constitute 40 percent of Dr. Pokorny's work currently, and he averages 30 percent of his time on Training Center activities.

Two members of the Baylor faculty have held the half-time position of Training Center Coordinator. From 1973 to 1975, Albert S. Moraczewski, Ph. D., served in this position. Dr. Moraczewski was an Associate Professor with ten years of substance abuse research experience. When he left Baylor in 1975, Gary J. Byrd, M. D., an Assistant Professor of Psychiatry with three years of clinical drug abuse experience, replaced him. Since Dr. Byrd's reassignment within the Department in June of 1976, this position has remained unfilled.

Another seven to eight faculty members have been supported by the grant each year for an investment of three to 15 percent of their time. These individuals provide didactic training and clinical or research consultation to Career Teachers. All have clinical or research experience in some aspect of drug or alcohol abuse, and over half have been tenured full Professors at Baylor. Others who have devoted one to four percent of their time to the Training Center program include the Chairman of the Department of Psychiatry and up to 13 others, with a

variety of research, treatment, and teaching backgrounds. The latter group includes a number of individuals with degrees in education, theology, and psychology and generally includes untenured faculty members of lower ranks.

c. Training Center Activities and Outcomes

(1) Career Teacher Training

Over the five years of Training Center existence, its Career Teacher training function has evolved with the needs of the Career Teacher group. The initial intent was to offer a basic training period of 12 weeks duration and up to two advanced training periods of 12 weeks each to three to 16 trainees yearly. Each training period was to be offered three times annually. As stated in the initial grant application:

> The goal of the training program will be to provide a full range of clinical and didactic experiences for faculty-trainees in the fields of alcoholism, drug abuse, and drug addiction, including exposure to research approaches and community programs, so as to qualify the career-teacher trainees for leadership roles in this area of Medicine after they return to their faculty assignments in their own Universities.

The basic training offered for the first two years consisted of a primary rotation through eight drug and alcohol treatment programs, a secondary rotation through research laboratories and other special programs, a series of seminars, lectures and conferences, and supervised teaching practice. The didactic portion of the training included

the pharmacology of dependency-producing agents and clinical syndromes, social and psychological factors related to drug abuse and alcoholism, preventive measures, treatment methods and approaches, and teaching methods. These sessions were led by the various faculty members described above. Only one Career Teacher and two other trainees (Indonesian psychiatrists sponsored by the U.S. State Department) have remained at the Center for the full three months of basic training as planned.

Ongoing evaluation during the second year identified a need to make the training program more flexible to accommodate trainees with differing backgrounds and to make the program accessible to the many Career Teachers who are unable to leave their home institutions for more than a week or ten days. In the third year of operation, therefore, the staff developed short-term workshops on specialized topics such as curriculum development and utilization of community resources. In 1975, the training program was revamped and further tailored to individual needs by instituting individual faculty conferences and concentrating the didactic material into a one-month period.

In its first five years, the Training Center has trained a total of 18 of the 40 Career Teachers. On the average, these 18 have each spent a total of one month at the Center (see Table 47). All have attended didactic sessions and those staying more than a few days

have done clinical rotations. Only one Career Teacher and two visiting Indonesian trainees have done research rotations. Whenever possible, the Training Center has arranged for Career Teachers to attend in pairs to complement each other.

Table 47: Career Teacher Training by Year

Year	Number Attending*	Average Stay
1972-1973	3	7 weeks
1973-1974	2	6 weeks
1974-1975	10	3 weeks
1975-1976	4	2 weeks
1976-1977	4	1 week

The Training Center faculty feels that the strength of this program lies in its use of pre-training correspondence and faculty consultations to develop an individual training plan for each Career Teacher. The program is seen as having a pharmacological orientation, with emphasis given also to treatment, basic and clinical research and educational methodology. While Baylor offers a wide range of clinical experiences to the trainee, the faculty recognizes that Career Teachers must go elsewhere to see some types of clients not represented in Baylor's treatment programs.

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*A total of 18 Career Teachers are represented by these 23 visits. The average total stay per Career Teacher was one month. Five other individuals visited the Center for periods of one week to three months and a larger number of local faculty members attended individual didactic sessions.

(2) Career Teacher Conferences

In February, 1975, the Training Center sponsored the third of the Career Teacher Conferences, entitled "Attitudes, Values, and Their Effects on Behavior". The three-day conference was designed to bring Career Teachers together to share information with each other, to expose more Career Teachers to the Training Center, and to effect changes in attitudes toward addicted patients at the sponsoring institutions. The conference was attended by 25 Career Teachers, two representatives from each of the Training Centers, a NIDA representative and six other individuals. The Training Center staff conducted a follow-up on the attitudinal theme. The staff has also assisted the Downstate Training Center and Career Teacher group in planning for other Career Teacher conferences and has presented technical information at these meetings.

(3) Supportive Services

Beginning informally over the first three years of the grant, the Training Center staff formalized its various efforts to provide support to the Career Teachers in its fourth-year renewal application. These efforts include a substance abuse library and abstracting service, other resource assistance, recruiting and application assistance, and continuing supervision during the grant.

The Training Center employs a librarian to maintain a drug and alcohol library for the use of Career Teachers visiting the Center. Upon arriving at the Training Center, each Career Teacher is oriented to the substance abuse library and the other relevant libraries at Baylor and is assigned readings. The Training Center librarian screens all current English language medical and related journals for articles in the area of drug abuse, addiction, and alcoholism and prepares a bi-weekly annotated list of such articles. These lists are mailed to all Career Teachers and approximately 70 other interested individuals. Special interest bibliographies and technical assistance to Career Teachers in building a drug and alcohol library are also provided.

Other resource assistance to Career Teachers includes the evaluation of existing audio-visual materials and the production of additional needed videotapes for use by Career Teachers and well as administrative and computer support for the development of substance abuse test questions. The Training Center's Videotape Coordinator has produced a series of three videotapes on the neonatal abstinence syndrome and is currently producing "Parenting Difficulties in Addicted Families" and a series of three tapes on the development, signs and symptoms, and treatment of alcoholism. Various members of the Training Center faculty are serving as authors and collaborators on these tapes. The videotapes are provided to Career Teachers at or below the cost of

reproduction and handling. The Training Center is considering the possibility of a tape, or series of tapes, on the fetal alcoholism syndrome in the future. They are also providing partial financial support to one Career Teacher for a series of films on physician-patient interactions in drug abuse. In addition to these efforts, the Training Center provides support for the collection and analysis of validation results on the national board exam test questions being developed by the NIDA-NBME Research Project Test Committee (formerly the NIDA Evaluations Task Force), headed by a Career Teacher.

The Training Center uses professional meetings and contacts with other medical schools to publicize the Career Teacher program and recruit new applicants. The staff provides assistance to applicants (mostly referred to them by NIDA or NIAAA) in preparing acceptable applications, providing information by phone, mail, or in person on the Training Center program, the Sponsor's role, and other aspects of the program, and consulting on the applicant's plans and training design. In several cases, the staff has reviewed completed applications prior to submission. Assistance has been provided to approximately 16 schools, half of which have since submitted grant applications.

The Training Center attempts to stay in touch with each Career Teacher throughout his or her grant period to provide continuing supervision by letter, telephone, visits at meetings and sometimes return

visits to the Center. The staff advises Career Teacher about educational and special experience opportunities elsewhere in the country and attempts to blend these into an integrated training experience for each Career Teacher. A file is kept on each Career Teacher who comes for training, including an exit interview. The Center periodically publishes a collection of Career Teacher profiles, which describes their backgrounds and interests.

(4) Special Projects

In addition to the ongoing functions of the Training Center, two special projects have been undertaken: (1) a pilot program in continuing education, and (2) a survey of professional schools. The Training Center faculty sought to meet a local need for continuing medical education for rural physicians in cooperation with the Single State Agency and the Medical Society of a three-county, predominantly rural area in Texas. This project, which began in mid-1975, includes the identification of needs, interests, strong and weak points in the practice of medical practitioners in the area, development and conduct of a program for improvement of knowledge and skills, assessment of resultant changes in knowledge, skills, attitudes and practice, and modification of the program. The Training Center also hopes to do further studies on evaluation methods for this type of training.

Also begun in mid-1975 was a survey of the state of drug and alcohol abuse training in the nation's health professional schools. The survey, a NIDA Task Force on Physician Education project, included all medical and osteopathic schools, and a sample of schools of nursing and dentistry and training programs for physician's assistants and nurse practitioners. Survey data from medical and osteopathic schools have been analyzed and will be reported at a Career Teacher conference in November, 1977.

(5) Impact on the Host Institution

The Training Center staff has been active in substance abuse education for Baylor medical students and house staff in addition to its Career Teacher program responsibilities. Prior to the establishment of the Training Center, a total of 21 hours of drug and alcohol abuse instruction were required in the undergraduate curriculum. The Training Center staff has added 27 hours to that total. Various members of the staff teach these units, which include four hours in preclinical psychiatry courses, approximately 24 hours in the psychiatry clerkship, eight hours in family practice seminars, and twelve hours in pharmacology courses. They also offer 440 to 620 hours of undergraduate substance abuse electives, none of which were available in 1972. For residents in Pediatrics, eight hours on drug and alcohol abuse which were required prior to the grant, are now taught by

Training Center faculty. Continuing education, including the model program described earlier, has also been a concern of the Training Center, which has provided training at Baylor and the University of Houston, and through the Texas Department of Mental Health and Mental Retardation.

The presence of the Training Center of Baylor has affected the medical school and its clinical facilities in other ways as well. It has made the substance abuse area more respectable and important at Baylor; this has had an impact on the curriculum, clinical programs and research. A new Alcohol Treatment Program, headed by a member of the Training Center faculty, has been established at one hospital, with both inpatient and outpatient services. A new Psychiatric Emergency Service, with approximately half of its services related to drug and alcohol abuse emergencies, has begun at another of Baylor's hospitals. Alcohol and drug abuse activities at the V.A. Hospital have increased. Outside funds for substance abuse research have increased from a total of approximately $350,000 in 1971-72 to over $600,000 currently, with a significant increase in the amount of research on drug abuse and a slight decrease in alcoholism. The Training Center is credited with adding several faculty members with interest and commitment in this area and with providing the interest, stimulation and capability to attract new funds. There is an increased awareness and concern with substance abuse among the faculty, and the Curriculum

Committee, Executive Faculty, and Deans are seen as more favorable and receptive to substance abuse activities. In addition, the presence of the Career Teachers at Baylor has brought new information and stimulated the interests of the faculty.

(6) Community Activities

The Training Center faculty has also been active in the drug and alcohol abuse field at the local, state and national level. For the treatment programs at the Texas Research Institute of Mental Sciences (which Dr. Schoolar heads) and the V.A. Hospital, the Training Center provides consultation and treatment services, counselor training, and current information. It also provides less direct support to a local drug abuse program which is used for Career Teacher clinical rotations. Dr. Schoolar serves as a member of the State Alcohol and Drug Committee, but the Training Center has been only minimally and sporadically involved with this agency. It has, however, worked with regional drug and alcohol councils on its continuing education programs, and members of the councils are attending the continuing education sessions in increasing numbers. The faculty of the Training Center have made themselves available to local, state and national groups as speakers and trainers. Among the groups for which training has been provided are school districts, a national church organization, state and national physician associations, other associations of allied health professionals, the state

department of health, national drug abuse conferences and organizations, the local sheriff's academy and other universities.

2. Downstate Medical Center - Career Teacher Training Center in Addictions

The Training Center at Downstate was first funded in March, 1973 as a second source of substance abuse training for Career Teachers. In its initial application to become a Training Center, Downstate stated that it planned to offer a full-time two-year training program "organized so as to give selected candidates such a broad background in drug and alcohol abuse that after graduation they will be equipped to establish and supervise new university medical center programs that include teaching, treatment, and research in the field of drug and alcohol abuse." Downstate changed from its planned training program almost as soon as it began working with Career Teachers and began providing a completely individualized program within its first year. It was not long before the Training Center staff began seeing the Center as a resource for the Career Teacher Program and expanding its functions along these lines. Today, the time spent in didactic instruction of Career Teachers is minimal, and the Training Center engages in a wide variety of activities designed to facilitate Career Teachers' professional development, curriculum design efforts, clinical and research work, and group activities.

a. The Host Institution

The College of Medicine of the Downstate Medical Center had its origin in 1860 as the Medical College of the Long Island College Hospital. Since 1950 it has been part of the State University system. Current enrollment in the four-year program is approximately 885 undergraduates. The school is organized into 19 instructional departments. The Training Center is a function of the Division of Alcoholism and Drug Dependence.

The Downstate Medical Center and New York's largest municipal hospital, Kings County Hospital Center, which is adjacent to and affiliated with the medical school, house a variety of drug and alcohol abuse treatment programs. The Division of Alcoholism includes an inpatient detoxification unit, short- and long-term rehabilitation units, and two outpatient clinics. Eleven physicians and 60 other staff members are employed in these programs. The Division of Drug Dependence operates two methadone maintenance programs (one for addicted mothers and their children), a polydrug clinic, a youth counseling program, an inpatient detoxification unit, and a drug-free day care program. The staffs include the equivalent of 52 1/2 full-time individuals, including 6 1/2 physicians. Drug and alcohol abuse research grants at the medical school are currently funded at over one million dollars.

The Medical Center provides a suite of six rooms to the Training Center, including offices for the staff and visiting Career Teachers, a library, and duplicating facilities. The Medical Center Library

provides space and reference specialists for the Training Center's data retrieval terminal.

b. Training Center Staff

The key Training Center staff originally included a part-time Program Director and a full-time Program Coordinator, but since the second year of the grant, the Program Coordinator has served part-time and a full-time Program Administrator has been included. From 1973 to 1975, the grant also supported three additional faculty members for a total equivalent of approximately one half-time position. The following year, a full-time Research Associate was supported, but no additional staff members are included in this fourth year of the grant. Each year, approximately ten other Downstate faculty members have served on the Training Center faculty five to ten percent of their time without grant funds, and a roster of 45 consultants, available to Career Teachers for training, has been maintained. The Training Center staff also includes an Administrative Assistant.

The Training Center Program Director, Benjamin Kissin, M. D., who devotes ten percent of his time to the Center and is not supported by grant funds, is a Professor of Psychiatry and Director of the Kings County Hospital Center Addictive Disease Hospital and the Division of Alcoholism and Drug Dependence. He has been involved as a researcher, clinician, educator, and administrator in the substance abuse field for 20 years at the College of Medicine.

The original, full-time Program Coordinator was Arnold Schecter, M. D. Dr. Schecter was an Assistant Professor of Psychiatry with prior experience in substance abuse treatment, research, and education. Following his year as Program Coordinator, Dr. Schecter spent another year as a part-time, unpaid member of the Training Center faculty before leaving Downstate Medical Center. He was replaced as Program Coordinator by Assistant Professor of Psychiatry Joel Solomon, M. D. Dr. Solomon has experience in the treatment of drug abusers and alcoholics, as well as substance abuse research and teaching experience. Over his three years as Program Coordinator, Dr. Solomon has spent from one-fourth to three-fourths of his time on Training Center activities.

The only full-time member of the Training Center faculty currently is Program Administrator Charles Buchwald, Ph. D. He is an Assistant Professor of Psychiatry and a clinical psychologist who began doing alcohol research in 1961 and treating substance abusers shortly thereafter.

The remainder of the paid and unpaid faculty consists mainly of Assistant Professors, but also several Associate and full Professors, all of whom have administrative responsibility for substance abuse treatment or research units. Approximately one-half are tenured faculty members. The Research Associate employed by the Training

Center in 1975-76 had an M.A. in Clinical Psychology. The consultants are members of the Downstate faculty and others in the New York City area with special interest, skills, and projects in the substance abuse field.

c. Training Center Activities and Outcomes

(1) Career Teacher Training

The training program at Downstate never provided the long-term structured training program first envisioned. The Training Center has provided an individualized program tailored to the Career Teacher's background and time available. Twenty-three of the first 40 Career Teachers have visited the Training Center for periods ranging from one or two days to four months. Several have made regular one- or two-day visits over a period of months, but most have stayed in New York for approximately one to three weeks. The training provided includes consultations and/or directed study with the Center's various faculty members, clinical clerkships at Downstate Medical Center-Kings County Hospital Center, and arranged visits to programs in and around the New York City area. Training at Downstate has never been a major grant expenditure; it currently accounts for approximately 15 percent of the budget.

(2) Career Teacher Conferences

Shortly after initiating recruitment activities, the Training Center realized that it needed to bring its training to the Career Teachers rather than waiting for them to come to Brooklyn. A series of Career Teacher conferences was therefore initiated in December of 1973. Since then, three conferences have been held annually (see Table 48) and the Downstate Training Center has been responsible for organizing and hosting all but one (the Houston conference). These conferences now account for approximately 40 percent of the Training Center's budget.

The earlier conferences included invited experts to provide training to the Career Teachers, but as the Career Teacher group grew in size and experience, these were eliminated and few outsiders have been invited to speak at later meetings. The first three conferences addressed the development of substance abuse curriculum, and the work which began at these conferences has been carried on at most of the subsequent meetings, where workshops and lectures on topics of interest to the Career Teachers (including treatment methodologies and research results) have been presented. An organization of Career Teachers was created at the third conference and a Steering Committee was selected to plan future conferences with administrative support from the Training Center. At the May, 1975 meeting, the NIDA Task Force on Physician Education was established, with separate Task Force

Table 48: Career Teacher Conferences

Title/Primary Topic	Location	Dates
First Conference on Medical School Curriculum Development in Drug Dependence	Downstate Medical Center Brooklyn, New York	December 3-7, 1973
Career Teachers' Interactional Conference - Curriculum Development	Airlie, Virginia	June 5-8, 1974
Career Teacher Training Program - Technical Curriculum Development	Louisville, Kentucky	October 1-4, 1974
Attitudes, Values and Their Effects on Behavior	Baylor College of Medicine Houston, Texas	February 12-14, 1975
Career Teacher Conference - Curriculum Objectives	Pasadena, California	May 9-11, 1975
Career Teacher Conference - Long-Term Treatment of Alcoholism	Cherry Hill, New Jersey	October 15-18, 1975
Career Teacher Conference - Product Development Workshops	New Orleans, Louisiana	February 11-14, 1976
Career Teacher Conference - Product Development Workshops	Savannah, Georgia	May 6-9, 1976
Career Teacher Conference - Miscellaneous Presentations	Portland, Oregon	October 6-9, 1976
Career Teacher Conference - Report and Miscellaneous Presentations	Atlanta, Georgia	February 9-11, 1977
Career Teacher Conference - Miscellaneous Presentations	Minneapolis, Minnesota	June 8-11, 1977

groups appointed to deal with specific curriculum development and evaluation objectives. These Task Forces of Career Teachers and Training Center staff members have continued to work together between conferences to jointly produce certain products, such as model educational objectives, a model program for continuing education, and a pool of substance abuse test questions.

(3) Supportive Services

The Training Center performs a number of other regular functions to provide support to individual Career Teachers and to the Career Teacher group. Assistance in the preparation of grant applications, or basic information on the program and the Training Center, has been provided to a large number of individuals. Significant help in preparing the application and/or an individual training plan (usually including one or two visits to Downstate, numerous phone calls and mail correspondence) has been provided to 20 applicants, 11 of whom are now funded Career Teachers. Throughout the Career Teacher's grant period, the Training Center continues to offer consultations on meeting the Career Teacher's programmatic objectives. In a number of cases, this has included on-site consultations with the Career Teacher and other medical school representatives on the development of clinical or instructional programs.

The Training Center also operates a reference service. A prototypical substance abuse library is maintained for use by Career Teachers

at the Training Center or by phone. The data retrieval service at Downstate is also available to Career Teachers, including the following computerized medical, drug abuse, and educational data bases: DRACON; MEDLINE (Index Medicus, CATLINE, FERLINE and TOXLINE): Psychological Abstracts; ERIC; and BIOSIS.

Several means are employed by the Training Center to facilitate the exchange of information among Career Teachers and with others in the field of substance abuse education. One is the publication, several times a year, of the Career Teacher Newsletter. Another is the recording, transcription, editing, and publication of the proceedings of the Career Teacher Conferences. The Training Center staff also regularly presents information on the Career Teacher Program at national conferences and professional meetings and in relevant journals.

Another ongoing function of the Training Center has been the evaluation of the Career Teacher Program. Data on the status of substance abuse curriculum prior to and during the grant period and on other accomplishments of the Career Teachers have been collected and analyzed. These data are used by the Training Center in planning its own activities and are reported to NIAAA and NIDA.

The Training Center has also been involved in the formation of the Association of Medical Educators and Researchers in Substance Abuse (AMERSA), an organization designed to encourage a continuing

active involvement of ex-Career Teachers in the Career Teacher Program, as well as foster an acceptance and interest in medical education and research in substance abuse. The Training Center has organized and administered committee meetings to facilitate formation of this organization and provides administrative services for it.

(4) Special Projects

Four of the special projects undertaken by the Training Center are product development efforts by groups of Career Teachers with Training Center support and involvement, which grew out of work begun at the Career Teacher conferences. The products to be developed include: (1) a collection of Curriculum Objectives in Substance Abuse now in final draft form; (2) a design for a Three-Day Alcoholism Course for Primary Care Physicians, also in final draft form; (3) two videotape pharmacology courses, now in the design phase; and (4) a Standardized Test of Attitude and Knowledge (STAK) for use in evaluating substance abuse instruction, currently being pilot-tested.

The Training Center has also produced, and plans to publish and periodically revise, a Career Teacher Handbook. The Handbook is designed for use by Career Teachers in the implementation and expansion of substance abuse curricula and includes an annotated bibliography, a list of prominent facilities and individuals throughout the country that can serve as resources, and a host of useful teaching aids, subdivided by content area. Two pilot projects are underway at Downstate and nearby

Mt. Sinai Hospital to develop a methodology for assessing behavioral change over time at Career Teacher schools. These are known as the Emergency Room and Ward Research Project and the Medical Records Review.

(5) Impact on the Host Institution

The Training Center faculty has assumed much of the responsibility for substance abuse education at the Downstate Medical Center College of Medicine. Dr. Kissin chairs a Curriculum Committee Interdepartmental Subcommittee on Alcoholism and Drug Dependence. Most of this work is done with funds outside of the Training Center grant or on a voluntary basis for time and services. Prior to the funding of the Training Center, the undergraduate curriculum at Downstate required 30 hours of substance abuse instruction. The Training Center faculty has added 12 1/2 hours to this and has stimulated the development of another three hours. The 13 hours of electives available to undergraduates in 1973 have been expanded through Training Center faculty efforts to include an individualized clerkship in drug abuse and alcoholism of up to six months. For residents in Psychiatry and Medicine, the 39 hours of instruction (elective and required) available in 1973 have been expanded to $50\frac{1}{2}$ hours, with the additional hours being taught by Training Center faculty.

The Training Center has also served as a resource center for information on drug and alcohol abuse for the Medical Center and has organized a network of treatment, education and consultation services. As a result, there has been an increase in requests for information and help from house staff and others in many parts of the hospital.

During the four years the Training Center has been operating, faculty involvement in the substance abuse field has increased. While 58 individuals were already involved in 1971-72, currently 66 are working in this field, and research grants have more than doubled to total over one million dollars today. It is not possible to determine to what extent Training Center activities have influenced this interest.

(6) Community Activities

The Training Center's involvement with substance abuse programs and other groups outside the medical school has also been largely voluntary and not funded by the grant. The Training Center makes use of a wide variety of treatment and research programs and governmental organizations in the New York City area for Career Teacher training. In return, the faculty serve as consultants on grantsmanship and training for these groups. They also serve as members of the New York City Affiliate of National Council on Alcoholism Committees on Training and Medical Education and work informally with the State Office of Drug Abuse Services and the Governor's Council.

Through the American Psychiatric Association, two Continuing Medical Education courses for practicing psychiatrists have been presented by the Training Center faculty. A "Comprehensive Course for the Practicing Physician" on the medical management of drug and alcohol abuse was presented to approximately 50 physicians in private practice. The faculty has also made three research presentations at conferences.

C. Non-Participating Institutions

In order to determine whether the presence of a Career Teacher grant leads to greater institutional activity in substance abuse, an effort was made to contact institutions which are eligible for a Career Teacher grant, but which have never received one. The data collected from these institutions -- particularly substance abuse curriculum hours and faculty involvement in substance abuse -- provide a basis for comparison with the Career Teacher sponsoring institutions.

Although to date all Career Teacher awards have been made to medical schools, grant eligibility extends to schools of public health and osteopathy. As described in Chapter II, a sampling plan was devised not only to provide sufficient data on substance abuse activities from each of the three school types, but also to provide data along the dimension of familiarity with the program; i.e., (1) schools which had applied

for the grant and were rejected; (2) schools that had shown interest but had not applied; and (3) schools which had shown no interest or awareness of the grant program. The final sample had the following configuration:

Table 49: Non-Participating School Sampling

Applicant Familiarity with Grant	School Type			Total
	Medical	Public Health	Osteopathy	
Rejected	4	0	0	4
Interested	4	1	1	6
Unfamiliar	7	5	3	15
Total	15	6	4	25

The basic institutional characteristics of the non-participating institutions sampled reveal no significant differences from Career Teachers' sponsoring institutions:

- Seven are in cities greater than 500,000 population -- 11 in cities between 100,000-500,000;
- Thirteen are public institutions;
- Seventeen were founded prior to 1960;
- Fourteen have less than 500 students;
- Ten have four-year programs, three have three-year programs, and the others are widely mixed;
- Five have departments of family medicine and four have departments of community medicine; ten have both;
- Emphasis is on care as opposed to research at these schools (13 of 18 responding) and the emphasis among them is on primary care as opposed to specialties.

The number of substance abuse curriculum hours at the 15 medical schools sampled is similar to the average number of hours offered at the Career Teacher sponsoring institutions prior to the grant award. Whereas the Career Teacher sponsoring institutions had an average of 4.3 required undergraduate hours and 8.1 elective undergraduate hours in substance abuse prior to the grant, the 15 non-participating medical schools have 4.9 hours and 1.3 hours respectively -- seven schools have no curriculum in substance abuse. Since the participating schools are currently offering 23.1 and 50.5 hours in these two categories, and other curriculum has also been developed for graduate training, it appears that the Career Teacher projects have indeed impacted upon the curriculum.

The four schools of osteopathy sampled have an average of 2.8 required hours in substance abuse and no elective hours. Two schools have no curriculum in substance abuse. Two of the six schools of public health have required curriculum and three have elective curriculum in substance abuse. The average number of hours of curriculum aggregated for these six schools was 12 required and eight elective.

At three of the schools of public health, no faculty are involved with substance abuse. The other three have two, seven and three faculty involved in substance abuse. All schools of osteopathy, however report faculty involved in substance abuse. Three schools have three

faculty involved; one school has 12 faculty involved. The number of faculty for both public health schools and schools of osteopathy seem high relative to the amount of curriculum being taught. The level of involvement in substance abuse of these faculty, however, is not known.

Personnel at those institutions which had expressed interest in the grant but had not applied or had been rejected were questioned regarding their experience with the Career Teacher Training Centers and the two Institutes, as well as their attitudes about the grant. The data sought from these ten schools were not obtainable. Of the 15 schools which had no record of interest, five were aware of the Career Teacher program, four were vaguely aware, and five had no awareness at all. Three of the five who had known of the program are considering applying. The nine schools that do not have knowledge of the program indicate that they would like to know more about it.

D. Validation of the Evaluation Hypotheses

During initial interviews with Institute personnel and preliminary site visits to three Career Teachers and one Training Center, CONSAD personnel obtained considerable information about the Career Teacher Program. Based on this initial review of the program, three hypotheses were developed for testing:

- Various institutional facilitating factors and constraints are closely related to the extent and nature of Career Teacher outcomes, and may be the most important predictors of individual Career Teacher project outcomes.

- Different and sometimes inconsistent "role definitions" for Career Teachers are identified by the Career Teachers themselves, sponsors, other influential faculty at the medical schools, medical students, and Institute personnel -- and these different role definitions affect Career Teacher activities and outcomes.

- The Career Teacher Program generates two major kinds of "residual capability" in the addictions:

  .. Sponsors, and perhaps other medical school personnel, plus Career Teacher products, represent residual capability or "institutional capital" which continues to be applied after the Career Teacher grant has ended;

  .. Career Teachers represent residual "human capital" which -- because of mobility -- may or may not reside within the sponsoring institution after the Career Teacher grant has ended, but which will be applied in addictions.

The findings of this study discussed previously in this chapter are reviewed and summarized here in light of these three hypotheses.

1. Institutional Facilitators and Constraints

During the collection of initial project data, information about the importance of institutional factors as "facilitators" and "constraints" viewed as significantly affecting the potential for Career Teacher impact within a medical school was identified. Among the constraints

identified, the most frequently mentioned were medical school rigidity and resistance to change. Similarly, institutional support and commitment were viewed as critical factors facilitating project success. Based on these discussions, it appeared that a Career Teacher -- typically relatively young, untenured, and working in substance abuse, an area considered unattractive by many physicians -- might conceivably find himself or herself to be "beating one's head against a stone wall" in attempting to effect institutional impact. In order to determine the accuracy of such an image, the first hypothesis above was developed and tested.

In order to test this hypothesis, lists of possible facilitators and constraints were identified, and Career Teachers and Sponsors were asked to identify those which affected them. Two principal project outcomes -- number of curriculum hours developed and adopted, and Career Teacher career intentions regarding work in substance abuse -- were examined in relation to each of these facilitators and constraints.

Career Teachers seldom identified many institutional constraints, as Table 50 indicates. Twenty-two Career Teachers did not identify a single constraint, and five others identified only one. Institutional facilitators were identified a little more often, with 11 Career Teachers identifying three or more. Only four Career Teachers identified more institutional constraints than facilitators. (Personal factors were

identified as important even less often.) Thus while the importance of identified institutional facilitators and constraints cannot be minimized -- an individual factor may have proved of primary importance in a particular institution -- the majority of Career Teachers clearly do not perceive themselves as beset from all sides by institutional obstacles.

Table 50: Number of Identified Personal and Institutional Facilitators and Constraints

Number Identified	Number of Career Teachers Identifying:			
	Institutional		Personal	
	Facilitators	Constraints	Facilitators	Constraints
0	7	22	8	21
1	9	5	14	14
2	9	4	8	1
3	3	3	3	0
>3	8	2	3	0
Total	36	36	36	36

More importantly, the available data do not support the hypothesis that institutional factors may "determine" project success. Not a single institutional facilitating or constraining factor correlated with the amount of curriculum developed. On the other hand, the professional predisposition of the Career Teacher did have some association with this outcome. Of 14 Career Teachers expressing a primary interest

in medical education/teaching, six developed more than 40 hours of curriculum, while only three of the 13 clinically oriented Career Teachers and only two of the eight research-oriented Career Teachers developed this much curriculum. The data indicate, therefore, that the predispositions of the Career Teachers are more important than institutional factors in influencing the level of curriculum development. Institutional "commitment" seems to be an important concern, but institutional factors appear secondary in the determination of this project outcome.

CONSAD also investigated the influence of various factors on career intent. It was found, however, that an extremely high proportion of Career Teachers (all but six) expected to continue to spend a significant amount of their professional career in the substance abuse field, regardless of their institutional experiences during the grant period. Similarly, 23 of 30 two-year Career Teachers expect to remain in medical school teaching part- or full-time.

The relationship between other project outcomes and institutional factors could not be examined because no other institutional factors related to outcomes with sufficient frequency to permit meaningful quantitative analysis. It appears, however, that a predisposition towards clinical practice may be important in "predicting" clinical effects from a Career Teacher project, and a research orientation may

facilitate research outcomes. Informal observations during site visits and telephone interviews indicate that institutional factors -- particularly institutional commitment to the project and compatibility of the Career Teacher with institutional pre-dispositions -- may be significant in facilitating or constraining certain project activities, but the data clearly do not support the hypothesis that they are the most important "predictors" of Career Teacher project outcomes.

2. Inconsistent Role Perceptions

Based on the interviews conducted as part of the initial methodology design effort, it was determined that the perceptions of the role of the Career Teacher often varied among the Career Teachers, the Sponsors, and the Institutes. It was hypothesized that where these differences in perception occurred, outcomes of the Career Teacher projects would be affected.

In order to test this hypothesis, Career Teachers, Sponsors, personnel at the Training Centers, and personnel at each Institute were asked to examine possible goals and objectives of the Career Teacher program and certain basic Career Teacher roles and indicate their relative importance. Then it would be possible to compare role perceptions, and relate these comparisons to program outcomes. The following four goals were almost unanimously identified as appropriate for the Career Teacher program:

a. Improve the training medical students receive on drug abuse and alcohol abuse.

b. Prepare medical schools to provide leadership, advanced training, consultation, and coordination in the addictions field, within the institutions and to the community at large.

c. Change doctors' attitudes and knowledge about substance abuse.

d. Improve the capability of the health care delivery system to deal effectively with the problems of addiction.

Respondents were then asked to provide a weighted ranking of 13 program objectives in termsof importance for the Career Teacher program. The following table displays the five top-ranked objectives of each of the four respondent groups.

Although six of the objectives are never included among the top five by any respondent group, there is little agreement as to the rank order among the other seven objectives.

- Whereas the Career Teachers and the Training Centers rank "Development and adoption of undergraduate medical school curriculum" as their first priority, the Institutes and the Sponsors rank it fifth and fourth, respectively.

- The Institutes rank "Development of individual Career Teacher long-term commitment to medical education in substance abuse" as their third priority, while the Career Teachers do not rank this among their top five at all.

- "Encouragement to students and practicing physicians to become involved in substance abuse" is ranked among the top five priorities by all respondent groups.

- The Institutes do not rank the establishment of a knowledgeable person at each medical school among their top five priorities, whereas all of the other respondent groups rank it highly.

Table 51: Average Weighted Rank* of Career Teacher Objectives

Objectives	Career Teacher	Sponsors	Training Centers	Institutes
Establishment of one knowledgeable person in substance abuse in the medical school	2	1	2	-
Development and adoption of undergraduate medical school curriculum	1	4	1	5
Development and adoption of substance abuse curriculum and exposure for interns and residents	3	5	-	2
Teaching of courses/didactic sessions in substance abuse in the medical school	4	-	4	4
Planning and implementation of continuing education sessions for practicing physicians	-	-	-	-
Planning and implementation of sessions for other health care personnel	-	-	-	-
Planning and implementation of courses or sessions for students in allied health professions, behavioral sciences	-	-	-	-
Development and supervision of clerkships and other clinical exposures for medical students	-	-	3	-
Carrying out of research in substance abuse	-	-	-	-
Teaching consultation in substance abuse to other faculty	-	-	-	-
Clinical consultation in substance abuse	-	-	-	-
Development of individual Career Teacher long-term career commitment to medical education in substance abuse	-	3	-	3
Encouragement to students and practicing physicians to become involved in substance abuse prevention/treatment/research teaching	5	2	5	1

*Rank is determined by average weight assigned to an objective by respondents. Equal weight was provided to each objective.

Following identification of goals and ranking of objectives, respondents were asked to evaluate the following roles as to whether they were "essential", "important", or "unimportant" for "most" Career Teachers:

- Curriculum Development and Teaching
- Clinical Services, Supervision, and Consultation
  Research in Substance Abuse
- Visibility as Role Model for Students
- Exposure to Other Faculty
- Exposure to Medical Community (publishing, societies, etc.)

While "Curriculum Development and Teaching" was ranked as "essential" by a large majority of individuals in each respondent group, and "Research in Substance Abuse" received the largest number of "unimportants", all roles received an average rating of at least "important" by all groups. There were no detectable differences among the groups in their perceptions of Career Teacher roles.

It is clear from these data that there is a perceptible difference in the priorities attached to the various objectives of the program; however, there is agreement about the goals and perceived roles of the Career Teacher. Therefore, a definitive statement about the initial hypothesis cannot be made. The data are insufficient on an individual project basis to determine whether this difference in perceptions about objectives had an effect on project outcomes. Even though there was

not a consensus among groups as to the appropriate priority attached to each objective, the Career Teachers were consistent in their approach to the project. That is, Career Teachers spent the majority of their time in curriculum development and self-training activities, consistent with the objectives that the Career Teachers ranked first, second and third in the prioritization of objectives. However, since role perceptions did not differ, this hypothesis could not be tested.

It is interesting to note that the ranking of the objectives by the six Institute personnel reveal little agreement among them as to priorities among objectives. This is not inconsistent with many comments received from Career Teachers that they were unclear initially as what their responsibilities were, and that the Institutes were unable to clarify this confusion.

3. Generation of Residual Capability

Since funding for the Career Teacher projects was only for a two- or three-year period, but the goals of the program were structured such that they would only be achieved over a longer period of time -- five to ten years -- it was appropriate to test the hypothesis that the program would generate a residual capability, both institutionally and in terms of "human capital". Only through the generation of this residual capability would it be possible for these short-term grants to have the long-term impact intended.

There has been a significant impact of the Career Teacher Program on the development of human capital, represented by the Career Teachers. There has been a definite increase in the knowledge, interest, and time spent in the substance abuse field, and there have even been changes in the faculty rank of Career Teachers. The major contribution to residual capability in terms of human capital, however, has been the number of "converts" to the substance abuse field as a career. Whereas 12 of the 40 Career Teachers had no intention or expectation of a career in the substance abuse field prior to the grant award, nine of these 12 now expect to spend a significant portion of their careers in substance abuse. In addition, 15 Career Teachers now rate medical education -- as opposed to clinical service or research -- as their primary emphasis, while only ten did previously. This shift in emphasis appears to be more consonant with the long-term goals of the program.

The residual capability generated in terms of "institutional capital" has been mixed. Prior to the Career Teacher program, there were an average of 18.5 hours of substance abuse curriculum within all areas of medical school teaching in the sponsoring institutions; today there is an average of 123.6 hours. Although much of the curriculum developed is dependent upon the Career Teacher for continuation, 18 of 30 Career Teachers indicate that at least 50 percent of the

curriculum would remain if they left the institution. As experienced by many Career Teachers, required curriculum is not easily changed and once in place is not easily dislodged. Therefore, the curriculum that has been implemented may be viewed as a significant contribution to the institutional capital.

Part of the initial hypothesis deals with the personnel at the sponsoring institutions as potential residual capability. Although Sponsors claim a high level of involvement in the substance abuse area, the record of their activities does not bear this out. However, most institutions -- 25 of 39 -- indicate that since the award of the grant to their institution, there has been an increase in the number of faculty and the amount of funding allotted to substance abuse. These increases also appear to be contributions to institutional capital, although they cannot be directly tied to the Career Teacher grant in most cases.

Overall, it would appear that the Career Teacher Program has generated a residual capability, in terms of both human capital and institutional capital.

IV. CONCLUSIONS AND RECOMMENDATIONS

This section specifies major conclusions drawn from the findings and analyses described in the previous sections and provides specific recommendations for strengthening the Career Teacher Program.

Conclusions and recommendations are presented within three major categories reflecting the three significant components of the Career Teacher Program: (1) the Career Teacher project grantees (Career Teachers, Sponsors, and institutions), (2) the Training Centers, and (3) the Institutes -- NIAAA and NIDA.

A. Conclusions

The Career Teacher Program has been extremely successful in meeting its most clearly specified objectives: training of individual Career Teachers in substance abuse, and the development and adoption of substance abuse curriculum within the medical schools. Moreover, the evaluation suggests many other actual and potential program outcomes and impacts which could be more fully realized if certain modifications were made in the program. Significant conclusions are summarized below:

1. Career Teacher Project Grantees

The following conclusions encompass the Career Teachers, Sponsors, and grantee medical schools.

- The Career Teacher Program has been extremely successful in the selection of Career Teachers who (1) have a professional interest in the substance abuse field, (2) intend to remain in medical education, and (3) benefit from the program in terms of personal ("human capital") development.

At the start of their Career Teacher grants, 16 of the Career Teachers either did not intend to devote a significant amount of their careers to the substance abuse field or were unsure of their intent; at present, only six fall into these categories. Only one Career Teacher intending to pursue a career in substance abuse became uncertain during the Career Teacher experience; all other changes have been positive. Thus the Career Teacher experience tends to encourage a professional commitment in substance abuse. A related finding may be even more important. All five Career Teachers who had been with their institutions 11 years or more -- the most "senior" faculty members -- began their Career Teacher grants unsure about whether they wished to devote a significant amount of their professional careers to substance abuse. After their Career Teacher experiences, all five reported a long-term career commitment in substance abuse. This suggests that the program may be able to attract mature medical faculty into the substance abuse field.

The large majority of Career Teachers in the program at least two years also intend to continue in medical education; of the 30 teachers, 23 presently expect to teach full-time, three to teach part-time. This represents a slight increase over the 24 teachers who had expected, before they became Career Teachers, to teach full- or part-time during their professional careers. Since receiving grants, 14 Career Teachers have received academic promotions.

While many of the "two-year" Career Teachers were knowledgeable about substance abuse before the grant, all report at least "moderate" knowledge at present. Interest has also increased. Thirty-two Career Teachers report an increase in the percentage of

their time spent in substance abuse related activities, and eight of the ten teachers reporting no change or a reduction were spending at least 60 percent of their time in the substance abuse field before the grant.

Thus as a group, Career Teachers started out with some commitment to work in the field and increased their knowledge, interest, career commitment, and activities in alcohol and/or drug abuse during and after their Career Teacher grant periods.

- Overall, there has been relatively limited Career Teacher Sponsor involvement and interest in the grant program, and this appears to be at least partially attributable to present program guidelines and grant structures and Career Teacher preferences.

Just over half (21) of the Sponsors reported being "very" or "somewhat" involved in substance abuse before the Career Teacher grant, and 19 reported these levels of involvement at present. Thus there was a minimal decrease in Sponsor involvement. Similarly, 29 Sponsors reported "high" or "moderate" interest in substance abuse before the grant, and 33 reported these levels of interest at present. There was thus a net increase of four Sponsors into these categories. This very limited change may be due partly to the high levels of reported interest before the grant period. The large majority (80 percent) of Sponsors reported spending less than five percent of their time on the Career Teacher project -- or less than one day a month. However, not a single Career Teacher felt the Sponsor should spend more time on the project. It appears from discussions with the Career Teachers that Sponsors are viewed as important in providing support when it is needed, and in giving Career Teachers the freedom to spend their time on project-related activities; few Career Teachers look to their Sponsors for significant substantive assistance or participation.

The present Career Teacher guidelines -- which provide no funds for Sponsors, not even for attending Career Teacher or other meetings -- do not encourage Sponsor involvement except as administrative "overseers" of Career Teacher activities.

- Career Teachers as a group have been successful in increasing the curriculum hours in substance abuse within their institutions. The average number of total hours of substance abuse curriculum (required and elective) before the grants was 18.5 hours; after the grants it was 123.6 hours, of which 122.3 hours were reportedly developed by the Career Teachers or because of the Career Teacher grant. Moreover, of 35 schools responding, 16 reported an increase of at least 16 hours of required undergraduate curriculum, and another 16 reported an increase of one to 15 hours. These figures represent important quantitative program outcomes.

- Program outcomes other than increased curriculum hours vary greatly and are supported by somewhat limited evidence. Faced with a variety of "secondary" objectives -- other than self-training and curriculum development -- each Career Teacher carried out different consultation, research, and clinical activities. However, the individual activities suggest a wide range of possible areas of impact, including significant research, clinical services, and the preparation of a variety of products.

- Indications of institutional commitment and/or involvement in the program are limited and inconsistent. Many Career Teachers have not received tenure -- but tenure does not appear to be a significant factor in affecting success in curriculum development and adoption. Eight Career Teachers have left their institutions, but in many cases not because of any lack of support. There have been some significant institutional impacts, such as increased beds for substance abusers in affiliated hospitals, the establishment of new clinical services for substance abusers, and greater involvement of substance abuse specialists in grand rounds and with other departments within the medical school. However, these impacts have been extremely varied and appear to represent the results of the individual efforts of particular Career Teachers rather than activities carried out consistently across projects. They do suggest a potential for increased institutional impact where specific activities are undertaken. Although the Career Teacher guidelines attempt to "build in" some level of

institutional commitment to the program, the present requirements have not been consistently successful in developing medical school involvement or action at an administrative or policy-making level. Schools may promise eventual tenure in a grant application but may later refuse it on the basis of lack of funds or internal promotion restrictions. Most Sponsors are department chairmen, but this has not necessarily led to responsiveness to Career Teacher suggestions by deans, curriculum committees, or even departments. Project successes appear to reflect primarily the individual efforts of the Career Teachers.

- Few individual variables -- such as Career Teacher or institutional characteristics -- seem to be closely correlated with positive or negative program outcomes. However, an important factor appears to be compatibility. Data collected informally indicate that projects tend to be most successful when Career Teacher, institutional, and NIAAA/NIDA objectives and priorities are compatible. Thus a clinically oriented Career Teacher is likely to be a more "successful" Career Teacher in a medical school with a primary care emphasis than in a school with a research emphasis.

2. Training Centers

The Career Teacher Training Centers were originally established with the idea that they would provide long-term, structured training for Career Teachers, particularly during their first grant year. When it became evident that this function would not be practical, the Training Centers gradually developed alternative approaches for meeting the individual training needs of the Career Teachers. The evaluation indicates that:

- While new activities have evolved and many appear to be appropriate and valuable, there has not been an adequate redefinition of Training Center roles. As a result, each Training Center has individually attempted year-by-year to identify activities which will provide support and assistance to the Career Teachers.

- The Training Centers have gradually assumed an administrative/coordinative role, involving an expenditure of considerable time on planning Career Teacher conferences, aggregating some data on Career Teacher activities, and serving as a source of information about the activities of various Career Teachers.

- One of the most promising recent undertakings of the Training Centers has been the assumption of responsibility for various joint activities by Career Teachers, with products of value to the field. Such efforts -- like the development of substance abuse questions for the medical boards, and the development of materials like STAK -- will be of value to all the Career Teachers, and can have impact beyond individual Career Teacher institutions.

- The Training Centers now provide pre-application assistance to potential grantees, an activity which appears to meet a significant substantive need. Institutions interested in the Career Teacher Program need a source of information about the program, as well as substantive and procedural advice on the application process.

- There is an inadequate definition of Training Center priorities. For example, it may be more or less important for a Training Center to assemble and disseminate copies of curriculum packages -- to avoid duplication of effort by the various Career Teachers -- than for them to carry out a conference management function, or send out questionnaires about particular Career Teacher activities. At present, the Training Centers receive relatively little guidance from the Institutes concerning the relative importance of different activities and roles.

- The Training Centers do serve as a valuable resource for the Career Teachers, and with clearer role definitions and priorities, could play an even more significant role.

3. The Institutes

NIAAA and NIDA have been very successful in working together in the development and operation of the Career Teacher Program. However, modifications in program guidelines and procedures would be valuable in building upon program strengths and overcoming present limitations. The following specific conclusions about Institute roles, program guidelines, and program operations provide the basis for the recommendations to be offered in the next section of this report.

- NIAAA and NIDA have demonstrated over the past five years that conjoint program administration can be appropriate and productive. The administrative and funding procedures which have emerged for the Career Teacher Program are generally appropriate and efficient; the funding delays and other difficulties which do exist appear to be a function of Federal agency operating procedures. Program efforts appear to have been cooperative, and this has minimized project confusion.

- The conception of the Career Teacher Program as a training grant program focusing on individual career development has led to a rather narrow and limited perspective, which has kept the program from realizing some potential Sponsor and institutional involvement and impact. In practice, the program has provided grants to individuals through institutions. No money has been available to encourage Sponsor participation or the involvement of other institutional faculty or administrators. Strong emphasis has been placed upon selecting Career Teachers who are interested in substance abuse but not

really experts (although there have been some exceptions), and in having a first year spent primarily in self-training and education. Suggested activities depend primarily upon the individual efforts of the Career Teacher, and the only institutional incentive has been the amount of the grant.

- The grants to date have been structurally homogeneous. With one exception, grants have been for a single individual to serve full-time as a Career Teacher. All grants have been to medical schools, and the majority are run out of Departments of Psychiatry. The majority of Sponsors are department chairmen. Funding provides about $25,000 for the Career Teacher's salary, plus funds for a half-time secretary and for Career Teacher training, including travel expenses for this training. Most Career Teachers have been male, relatively young, and untenured. Over half are psychiatrists; 33 are physicians. While this structural homogeneity is not necessarily undesirable, it may serve to minimize project flexibility, to discourage creative alternative alternative applications, and narrow program focus.

- The Career Teacher guidelines specify multiple objectives, and Career Teachers have tended to believe that they were expected to meet most of them. With the exception of self-training and curriculum development activities, this seems to have led to a "buckshot" approach, with many Career Teachers having time for only a little community consultation, a little clinical consultation, some limited research, etc. -- and therefore not achieving major results in any of these areas. Some Career Teachers, on the other hand, have concentrated in just one or two areas -- development of a clinical facility, specific kinds of research, etc. -- and their accomplishments suggest the value of a more focused effort.

- A concept of the Career Teacher Program as a whole, rather than as a simple aggregation of its individual projects, seems to be lacking. Each project is structured very like the others, and

there is little formal recognition of the possible value of defining project categories which complement each other, to produce program products which together will meet a national need. The program has aimed at funding one Career Teacher in each school of medicine, osteopathy, and public health -- rather than funding a variety of projects which together will directly or indirectly affect all these institutions, using differing approaches.

- The program lacks well-defined objectives and priorities which are agreed upon at the Institute level, and communicated to the projects. This uncertainty complicates the application process as well as individual project efforts. There has been little disagreement in the past several years about long-term program goals, although different Institute officials have differing recollections of the original goals. However, there has been some variation in opinions concerning (1) whether or not each project should address all the objectives specified in the guidelines, and (2) the relative importance of particular objectives and activities. Grantees have reported varying expectations from different individuals, particularly after staff changes have occurred at the Institutes. Different Career Teachers perceive different objectives as being more or less important, and appear to have planned and implemented their activities based on these differing perceptions of Institute desires.

To some degree, changes in emphasis represent program "evolution". However, no present set of priorities exists, and new applicants are likely to face the same confusions as past ones in determining what constitutes a "reasonable" project scope. Moreover, applicants have reported difficulties in obtaining substantive help during the pre-application phase -- and indicate a need for obtaining a clear statement of Institute expectations which goes beyond the brief written guidelines.

The evaluation findings suggest the need for a reassessment of the relationship between specific program objectives and long-term program goals, and a clearly defined statement of goals, objectives, and priorities. Applicants can then be expected to develop a specific and practical work plan for meeting crucial objectives, and to determine a reasonable scope of work, given an understanding of Institute priorities.

The Career Teacher Program has been successful in meeting those objectives which have received the greatest continuing emphasis during the five years of the program. By revising program guidelines and operations -- and without a major restructuring -- NIAAA and NIDA should be able to significantly expand the areas of program effectiveness and impact.

B. Recommendations

Based on the conclusions described above, CONSAD has (1) developed specific recommendations for program modifications, and (2) summarized the implications of the recommended changes on Career Teacher project and Training Center roles and activities. The remainder of this report presents the recommendations and their implications for each of the three components of the Program (Institutes, Training Centers, and Career Teachers), followed by a synthesis of these recommendations.

1. Recommendations for Institute Action

Figure 5, attached, summarizes recommendations for program modifications and resulting Career Teacher project and Training

Figure 5: Recommendations -- Activities and Roles

NIAAA/NIDA	Training Centers	Career Teacher Project Grantees
. Clarify/reassess program objectives and establish priorities; define required and optional project activities. . Expand the number of acceptable project models, to include: .. #1 - one Career Teacher .. #2 - a team within a single school (e.g., a medical school) .. #3 - an interdisciplinary team within a single institution (e.g., a university) .. #4 - a team within a specified geographic area (e.g., one metropolitan area, state, or region) . Provide for flexibility in project funding, including: .. Grant amount .. Use of funds . Provide for flexibility in length of grant period. . Define and assign responsibility for providing pre-application substantive information (in coordination with Training/Resource Centers).	. Redefine functions to emphasize resource center roles, specify scope of activities. . Develop logical division of responsibilities between training/resource centers. . Pre-application roles: .. Clarify program goals, objectives, priorities, guidelines .. Explain funding process .. Provide substantive assistance in preparation of grant application . Career Teacher project support roles: .. Arrange for needed training for Career Teachers, using appropriate sources .. Provide technical assistance to projects, including on-site assistance .. Collect, catalog, and disseminate curriculum materials and other Career Teacher products .. Develop materials to assist Career Teacher projects .. Provide specialized short-term training sessions (e.g., in curriculum development, project assessment)	. Before preparing a formal application: .. Consult with the Institutes and a Training Center to learn about program .. Assure that the institution and proposed Career Teacher have compatible project priorities and interests .. Assure that institution and potential Career Teacher objectives and priorities are compatible with those of NIAAA/NIDA .. Assure that the proposed Career Teacher has a substance abuse and a medical education career interest .. Assure proposed Sponsor willingness for ongoing administrative and substantive participation .. Establish institutional commitment in terms of in-kind match, etc. .. Consider various structural models

Figure 5: Recommendations -- Activities and Roles (Continued)

NIAAA/NIDA	Training Centers	Career Teacher Project Grantees
. Provide for flexibility in extent of Career Teacher experience in substance abuse . Consider the following factors in making grant awards: .. Compatibility of project scope and objectives with Institute objectives and priorities .. Extent to which applicant would complement other projects, use creative approaches, and generate products useful to other institutions or groups .. Compatibility of proposed Career Teacher interests and proposed grantee institution interests .. Proposed Career Teacher's career interests in substance abuse and medical education, influence within the institution, visibility, and charisma .. Evidence of Sponsor commitment to project involvement .. Evidence of institutional commitment (in-kind, promised post-grant activities, etc.)	.. Coordinate Career Teacher meetings .. Plan and coordinate sponsor meetings .. Encourage joint activities by Career Teachers to benefit individual institutions and the field .. Establish interdisciplinary teams for special projects .. Serve a "brokerage" function to help projects locate resources and assistance . Program coordination roles: .. Carry out needs assessment to help determine project needs .. Develop quarterly reports .. Review submitted reports .. Carry out special research and evaluation projects .. Do Career Teacher follow-up (with Career Teachers, Career Teacher institutions, other institutions) . Involve former Career Teachers through: .. Providing funds for travel to Career Teacher meetings .. Use as resource people for meetings and joint activities	. In preparing an application: .. Determine relative emphasis on education/teaching, clinical practice, and research .. Develop local project objectives compatible with Institute objectives but reflecting local focus .. Determine most appropriate structural model for meeting project objectives .. Develop a project work plan, including activities, milestone dates, and measurable outcomes .. Identify an additional faculty member or members with the same general focus (teaching, clinical, research) as the Career Teacher .. Obtain Training/Resource Center assistance, review, and advice during grant application process . During the grant period: .. Use Training/Resource Center capabilities .. Have Career Teacher and Sponsor attend meetings and participate in other joint activities

Figure 5: Recommendations -- Activities and Roles (Continued)

NIAAA/NIDA	Training Centers	Career Teacher Project Grantees
.. Specificity and practicality of proposed work plan . Modify the grant structure to increase accountability, and provide regular monitoring of projects: .. Review summaries of quarterly reports and annual assessments from the Training/Resource Center .. Require written notification of significant changes in the work plan .. Participate in joint meetings . Develop procedures for communicating guidelines and/or procedural changes to grantees in clear written form . Redefine Training/Resource Center functions, scope of activities, priorities, and division of responsibilities between the Centers	. Provide services on request by non-Career Teacher institutions concerned with medical or related education in substance abuse . Seek other NIDA and NIAAA and other public and private funds for compatible projects . Coordinate activities with NIAAA research centers and NIDA resource centers	.. Provide curriculum materials and other products to the Training/Resource Center for cataloging and dissemination .. Follow work plan; inform Institute monitor of any significant changes .. Carry out or arrange for a project progress assessment annually

Center roles and activities. Modifications in program guidelines and procedures are recommended in order to (1) retain and build upon project strengths such as success in Career Teacher professional development and curriculum development and adoption, (2) increase institutional impacts and the "residual" capability which remains at a school even if the Career Teacher leaves, (3) encourage varied approaches to meeting program objectives, and (4) increase joint activities leading to products and knowledge of benefit not just to individual institutions but also to the field -- which are cost-effective ways to contribute to program objectives.

The following program changes are recommended:

- Clarify/reassess program objectives, establish priorities, and define preferred project scope, including required and optional project activities -- and modify program guidelines and instructions to reflect these changes. This effort is needed to clarify project requirements to potential and present grantees. Especially important is a clear determination of prioritized objectives and activities, so that Career Teachers are encouraged to focus on a practical number of activities, compatible with Institute notions, rather than using a "buckshot" approach and trying to do a little of everything.

  It would be best if all personnel involved with the Career Teacher Program at both NIDA and NIAAA met together to discuss, determine, and prioritize the program's long-term goals and its short-term objectives. The instrument developed by CONSAD for exploring the program perceptions of the various groups involved in the program (see Appendix 3)

might serve as a starting point for these discussions. When consensus on the Program's aims is achieved, this group should consider all of the project activities which have been undertaken in the past (see Volume II of this report) and those which might reasonably be added in the future because of any changes in the objectives or because of the adoption of new project models (see next recommendation). The group should determine which, if any, of these activities is essential for all Career Teachers or for any subgroup (such as those with no previous drug abuse knowledge or those who will work in an interdisciplinary team). Other activities should then be prioritized and/or grouped into logical units, to aid Career Teachers in selecting a reasonable and practical set of activities for their projects. Any activities which are not appropriate for an individual receiving Career Teacher funds should also be agreed upon and specified.

Expand the number of acceptable project models, to encourage creative approaches rather than requiring structural homogeneity. Consideration of multiple project models requires more careful review and monitoring than does use of a single structure, but it allows each applicant to select an approach compatible with both national program objectives and local institutional requirements, structure, and operations.

The following four models are suggested as alternatives, and should be described in writing for use by potential applicants:

.. #1 - one Career Teacher within a single school (or dividing his or her time among several schools within a single university, such as the medical school and school of social work).

This is the basic Career Teacher model currently in use. In many schools, it has been quite successful in affecting the medical school curriculum. Career Teachers at the University of Arizona and Howard University have successfully expanded their efforts to include other schools in the university.

- #2 - a team within a single school -- such as several professors within a single department or an interdisciplinary faculty team from several departments.

  Texas Tech University Medical School has implemented this model with the Career Teacher grant they received by supplementing it with state funds. Four members of the faculty have received training in substance abuse and have greatly expanded substance abuse teaching; substance abuse is now addressed in the curricula of eight departments.

- #3 - an interdisciplinary team within a single institution -- such as faculty members from a university's medical school, school of social work, and school of public health.

  During the 'sixties, the DHEW Office of Education utilized interdisciplinary teams in its educational research and development laboratories to produce some very successful curricula, including the PSSC Physics Program for high school students.

- #4 - a team representing several institutions within a specified geographic area -- such as medical school faculty from each of three schools located in one large city.

  The three Career Teachers in Washington, D.C., have informally tested this model. All three are active members of the Substance Abuse Committee of the Washington, D.C., Medical Society and work together on continuing education efforts through this committee. Had the four Career Teachers in New York City employed this model, three different disciplines (psychiatry, community medicine, and internal medicine) would have been represented in any curriculum developed. The Southern Area Alcohol Education and Training Program (funded by NIAAA) has employed

such a regional approach to developing curriculum for minority alcohol program workers, through its grant to Jackson State University to bring together representatives from the entire Southern Area.

Those models involving several individuals must include a clear indication of coordinative and supervisory responsibility, including who serves as the Sponsor, percent of time to be allocated to each individual in the Career Teacher group, and activities to be carried out by each group member. (Part-time Career Teachers would be appropriate in projects involving a team approach.) Where more than one institution is involved, administrative responsibilities must be clearly defined.

NIAAA and NIDA might want to limit applicants to these models, or might prefer to set flexible limits and individually review each application for the appropriateness of its model. The Institutes might specifically solicit demonstrations using the "new" models.

- Provide for flexibility in project funding, including grant amount and use of funds. Along with variations in project structures, greater flexibility will be needed in funding amount and acceptable categories of expenditures. Specifically:

  - The annual and total funding level for a project should be determined by the structural model and probable value of the project. Thus a project involving an interdisciplinary team within a large university might appropriately receive funds for several rather than one full-time Career Teacher, or for the equivalent in part-time Career Teachers.

  - Projects should be permitted to use funds for a wider variety of activities, including providing travel money for a Sponsor or other faculty member to attend Career Teacher meetings

or Training Center functions, providing some support funds for faculty members other than the Career Teacher who participate in key activities, and permitting use of funds for materials preparation or other special purposes consistent with grant purposes.

- Provide for flexibility in the length of the grant period. While a three-year grant may be appropriate for the majority of Career Teacher projects, the inflexibility and certainty of this limitation has had disadvantages. In the past, many Career Teachers have spent their first year getting "trained," their second year developing curriculum and beginning other activities, and then found that much of the third year is expended in seeking other funds or making plans to relocate. A project which after two or three years shows promise of further significant contributions to the institution and to the field should be considered for additional funding. A project which after one year shows evidence of a lack of progress or grantee interest should not be continued for the full three years. Moreover, if new team models are used, the appropriate grant period will depend upon the activities and objectives of the individual projects. A flexible grant period will permit NIAAA and NIDA to make individual judgments about projects based on program objectives and priorities, while retaining a "usual maximum" period if this seems desirable.

- Define and assign responsibility for pre-application assistance to potential grantees, and increase the amount of substantive assistance provided. This will help assure that potential grantees understand project objectives, priorities, and scope, so that their applications meet Institute guidelines and can be seriously considered for funding. Moreover, institutions which cannot meet these guidelines will be spared the costly process of making a formal application. Substantive assistance during the application process will help applicants identify the most appropriate project model and develop an adequate and practical work plan.

Much of the responsibility for assistance to potential applicants should be borne by the Training Centers; they should be assigned specific responsibility for substantive assistance to potential grantees during the application process. However, Institute officials should be responsible for providing a clear statement of program purposes and objectives and answering questions regarding funding policies and guidelines. It might be best for an arrangement to be made whereby Training Center personnel send out introductory materials about the program (approved by the Institutes), but Institute officials provide substantive information by telephone or in person as soon as a potential applicant expresses serious interest in the program. This has the benefit of establishing an early contact between the institution and one of the Institutes. Then the individual can be referred to the Training Center for specific substantive assistance in preparing the application.

- Provide for flexibility in the extent of Career Teacher experience in substance abuse. If the Career Teacher Program is viewed as primarily a means of training individuals in substance abuse, then Career Teachers should be selected who have a career interest in the field but are not substance abuse experts. If the program is viewed more broadly, as a means of increasing institutional activity in substance abuse, then this restriction seems unwise. Some substance abuse experts may be extremely effective Career Teachers, using their training time to develop corollary skills such as a curriculum development capability, and/or actually producing curriculum materials and other products of considerable value to their own and other institutions. Project models involving interdisciplinary teams will probably prove most successful where at least one team member is already an expert in the field. Thus the Institutes should review each application individually, and encourage applications involving both substance abuse experts and novices.

- In reviewing individual applications and making grant awards, consider the following factors with special care:

  - The compatibility of proposed project scope and objectives with Institute objectives and priorities. An applicant really interested in something other than Institute priorities should be rejected, even if the institution and proposed Career Teacher(s) have appropriate characteristics. An applicant whose work plan will not contribute to reaching Institute goals for the program should be advised to seek funds elsewhere; the proposed work plan should be viewed as an accurate indication of what the applicant really intends to accomplish, and specificity should be required. Applicants should be made to understand that they will be held to the scope of work specified in their applications.

  - Extent to which the applicant's project would complement other projects, use creative approaches, and generate products useful to other institutions or groups. Not all projects should promise the same outcomes. If a medical school already has a good substance abuse curriculum, a Career Teacher grant may still be appropriate to increase clinical facilities, encourage research, develop the school into a center for substance abuse consultation to physicians, etc. In reviewing applications for projects involving different models, the Institutes will need to consider not just the individual application but the total universe of funded projects, so that the program as a whole generates desired outcomes. Projects which offer creative and potentially replicable approaches to dealing with substance abuse within educational institutions may be particularly important, as may projects which will develop products which may be used by other institutions with or without Career Teacher grants.

- Compatibility of the interests of the proposed Career Teachers and the applicant institution. Experience suggests that a Career Teacher who focuses on developing clinical facilities in a research-oriented medical school -- or who plans to develop a strong research program in an institution committed to primary care -- may face insurmountable obstacles. Institutional support appears to be a critical factor in program success. Thus Institute reviewers should be particularly sensitive to applications in which the interests of the Career Teacher(s) appear incompatible with the interests of the institution. An application may be submitted without genuine institutional support, and evidence of such incompatibility is a good indicator of this weakness.

  Recognizing such incompatibility in a written application can be extremely difficult, so reviewers should seek additional information from site visitors and from those Training/Resource Center and Institute staff who have provided assistance in the preparation of the application. This evaluation has identified some indicators of potential incompatibility: a proposal from a patient care-oriented institution to carry out an ambitious research project, or a major clinical services development plan from a research-oriented institution, both proposals reflecting conflicting personal and institutional objectives; an indication from the medical school that it will be necessary for the proposed Career Teacher to continue during the grant period to carry out unrelated faculty duties which will require a major allocation of Career Teacher time and energy; or a personal commitment which is not compatible with Departmental priorities, such as a strong community service orientation in a Department interested in clinical services only as treatment demonstrations for students. None of these alone should be taken as sufficient reason to reject an application, but should indicate the need for

further assurances from the institution. Sometimes a model other than assignment of a single Career Teacher can permit convergence of individual and institutional goals and priorities upon a single set of mutually agreeable objectives consistent with Institute priorities. For example, an individual in a research-oriented medical school who hopes to devote a significant amount of time to curriculum development but must stay involved in research to meet institutional priorities might form a team with another, influential faculty member who would satisfy the research needs of the institution while providing input and support to the curriculum development effort.

.. Characteristics of the Career Teacher(s), particularly career interests in substance abuse and medical education, influence within the institution, visibility, and charisma. While commitment to substance abuse as a career tends to increase during the grant period, pre-grant interest appears to facilitate project success. Since the program seeks to increase activity in substance abuse within medical education institutions, individuals with plans to remain in medical education clearly represent a particularly good "long-term" investment. Some evidence of influence and visibility within the institution appears important. Membership on a curriculum committee, participation in past (successful) efforts to develop new curriculum or clinical programs or in well-regarded research efforts, and recruitment by the current department chairman to fill a substance abuse position appear to be better indicators of success than tenure or faculty rank. "Charisma" is difficult to measure, but a high energy level and ability to serve as a role model appear to be valuable attributes for a Career Teacher. There is no simple profile of a "successful" Career Teacher, but these characteristics seem helpful.

.. Evidence of Sponsor commitment to project involvement. Past lack of Sponsor involvement

appears to have limited the potential for lasting institutional impact, particularly if the Career Teacher leaves the school. Incentives to Sponsor involvement -- such as permitting grant funds to be used to involve the Sponsor in substance abuse conferences and other Career Teacher activities -- should be provided by the Institutes, and applicants should in turn be expected to indicate a commitment by the Sponsor to participate in project activities.

Sponsors should plan to participate in meetings designed to keep them up-to-date on substance abuse issues and the Career Teacher Program, as described in the Training/Resource Center recommendations which follow. The Sponsor and Career Teacher(s) should also work together on development of a clinical facility, on a research project, or in teaching substance abuse curriculum. Where substantive involvement by the Sponsor seems inappropriate, the applicant might equally well identify other faculty members with compatible interests (in teaching, research, or clinical practice) who will have substantive involvement in the project. Moreover, while most Sponsors have been department chairmen, the importance of this title is not clear; an influential Sponsor appears important, but he or she need not be the department chairman to serve on the curriculum committee or otherwise have strong influence within the department and the institution.

The Sponsor serves two primary roles in the Career Teacher program -- support and continuity. A Sponsor should provide the "political" support needed to institute curriculum changes or establish new clinical programs, and should support the project administratively. Part of this support role includes providing guidance to the Career Teacher(s) in making decisions on training or project activities which might affect the individual's career. The Sponsor also provides continuity because he or she is more likely to

remain at the school than the Career Teacher and therefore may be able to insure that substance abuse remains a priority issue after the grant. Participation in Career Teacher activities keeps the Sponsor in close contact with the support needs of the Career Teacher and with the substance abuse field.

- Evidence of institutional commitment to the project. Since a promise of tenure may be impossible to keep -- and tenure does not appear to be important to project success -- other evidences of institutional commitment might better be sought. The Institutes might require some in-kind support for the project, clearly specified in the grant. Grant guidelines should suggest various indications of commitment which would be favorably reviewed, including: an indication that the Career Teacher(s) will be permitted to continue joint activities after the grant period; arrangements to have the Career Teacher sit as a non-voting member of the curriculum committee; or a specific plan for obtaining other funds to support substance abuse research, clinical services, or teaching. A variety of factors might be considered as evidence of institutional commitment to the project, but the application should indicate some institutional effort in support of the project.

- Specificity and practicality of the proposed work plan. The grant application provides the only available indication of what a project seeks to accomplish. In the past, these applications have often been very general and indefinite, and this seems to have contributed to some confusion about activities during the first year of many of the grants. With increased assistance in the application process should come improved applications, which provide a clear statement of objectives, proposed activities, milestone dates, and anticipated measurable outcomes. No application should be funded without an acceptable work plan.

Modify the present grant structure to increase grantee accountability and provide for regular monitoring of projects. While an immediate change to a contract structure is not recommended, the Institutes need a means of increasing their ability to monitor and guide Career Teacher projects. This will be particularly important if the program is modified to include a variety of project models. The Institutes must have officials responsible for regular monitoring of the projects, a means of holding grantees to their proposed scope of work unless written permission is obtained to change it, and procedures for receiving regular feedback on grantee activities. The following procedures are recommended:

- Institute officials should work with one or both of the Training Centers to develop a quarterly report form, which can then be sent out and received by a Training Center. The Training Center can summarize results and provide the reports to the Institutes for review and action if necessary.

- Grantees -- Sponsors and Career Teachers -- should understand that they are expected to follow their work plans, and procedures should be established for written modifications to be submitted where significant changes occur.

- Institute personnel should participate in joint meetings and otherwise increase their communication with grantees as much as feasible, to provide continuing monitoring and Institute support. The relationship should be similar to that of monitors of treatment projects; the monitor should be well known to the grantee, and regular communication should be established. Grantees should be able to expect assistance from the monitor and should discuss progress and problems with the monitor regularly on an informal basis. If varied project structures are funded, the need for such monitoring and support will be greatly increased.

- Develop procedures for communicating guidelines and/or procedural changes to grantees in clear, written form. In the past the Career Teacher Program has involved minimal program documentation, and this may have been helpful. However, there has been some uncertainty on the part of grantees concerning what was expected of them.

  A clear statement of guidelines, objectives, and priorities should be developed, circulated, then updated ever policy changes occur at the Institutes, so that grantees are kept informed of the most current policies, guidelines, priorities, and interests of the Institutes. Presentations at Career Teacher meetings can supplement written documents, and the Training Centers can be given responsibility for some dissemination of materials. However, the Institutes should retain responsibility for stating and explaining policies.

- Redefine Training Center functions, scope of activities, priorities, and division of responsibilities between the Centers. Evaluative findings suggest the need for a redefinition of Training Center roles and responsibilities, and recommended changes in program guidelines and procedures will necessitate supportive changes in Training Center activities. It is recommended that the Training Centers be restructured as "resource centers," with strengthened roles and responsibilities; recommended functions are described in the following subsection.

2. Recommended Training/Resource Center Roles and Functions

The roles and responsibilities of the Training Centers require redefinition so that the Centers can provide strong support to the Career Teacher grantees and to NIAAA and NIDA. The following roles and activities are recommended:

- The Training Centers should be redefined as Resource Centers to reflect a broader focus to support the Career Teacher Program. Institute officials must work with Training/Resource Center officials to define the scope and limits of Center activities -- delegating considerable substantive responsibility for assistance to Career Teacher grantees and applicants, but retaining policy-making and policy interpretation responsibilities.

The activities of these Training Resource Centers should reflect the needs of current and former Career Teachers as well as other substance abuse educators at the university level. An annual survey should be made by the Training Centers of the Career Teachers to determine what training and assistance they feel they need. It should also address the need for information services and for such teaching aids as substance abuse exam questions, curriculum outlines, texts, attitudinal measures, and model workshops or courses. Periodically (perhaps every three or four years), non-participating schools of medicine, osteopathy, public health, social work/psychology, and other schools providing professional training to those who will work with substance abusers, should be surveyed to determine their need for similar assistance. The Training/Resource Centers should also maintain frequent informal contact with NIAAA and NIDA to share information and remain abreast of the Institutes' changing priorities.

Each Training/Resource Center's annual proposal should specify its activities and schedules for the year. Once negotiated with the Institutes, this proposal should serve as a work plan to be followed during the year, with milestones to be met on time. This work plan should leave enough flexibility, however, so that the Training/Resource Centers can meet specific needs which arise during the year, such as providing information about new treatment modalities to meet teaching and clinical needs, or information on new federal regulations which affect physicians working with drug or alcohol abusers. Such quick-response activities can be included in the work plan without specifying the content in advance.

- Develop a logical division of responsibilities between the two Training/Resource Centers, and provide for greatly increased coordination between them. The two Centers should not be encouraged to become regional "mirror images" of each other. Instead, necessary activities should be reviewed jointly with Institute personnel participating, and a reasonable division of responsibilities reached which lets each Center carry out those activities for which it is best suited. A few functions must be carried out by both; for example, both should be able to provide pre-application substantive assistance to potential applicants. However, geographic factors should not lead to duplication of effort. One Center should have responsibility for handling quarterly reports, one should do conference management (the relative importance of which should decrease as other functions are introduced), one should disseminate bibliographies of Career Teacher products and relevant publications, etc. Both should be able to provide individualized training and technical assistance, but they should specialize in different technical areas. The present division of focus seems appropriate, but must be redefined as new functions are identified and assigned. Continuing cooperation and coordination between the Centers is essential. Each must be prepared to refer individuals to the other, to meet particular needs. There will be many activities requiring coordinated joint efforts. Thus regular communication between the staffs will be very important.

- Have the Centers carry out the following pre-application support roles, working with institutional representatives who express an interest in the Career Teacher program. Potential applicants may be referred to the Center by an Institute official, or may call a Center without prior contact with NIAAA or NIDA. The Center should first provide general information and answer specific queries, then refer the individual to identified Institute personnel for a discussion of program policies and guidelines. Applicants who express an interest in the program after this initial discussion with Institute personnel should be referred to the Training/Resource Center for assistance. Pre-application assistance should include the following:

- Clarify program goals, objectives, priorities, and guidelines by providing copies of program documentation, sample project models and applications, and other materials;

- Explain the funding process, including application requirements and review procedures;

- Provide substantive assistance in the preparation of grant applications. Applicants should receive help as needed in defining objectives, developing a specific work plan with milestone dates and measurable outcomes, and meeting guideline requirements for showing Career Teacher capabilities, institutional commitment, Sponsor commitment and other faculty involvement, etc. Help can be provided in preparing a budget as well. For policy questions, however, applicants should be referred to Institute officials. Moreover, the Centers should confer regularly with Institute officials concerning assistance being provided to potential applicants.

Where it appears that an applicant will not be able to meet Institute requirements, the Center should arrange for discussions involving Institute personnel and the potential applicant. Thus the Center role will be substantive and supportive.

Provide the following kinds of support to active Career Teacher project grantees:

- Arrange for needed training for Career Teachers, using in-house and other appropriate resources. Training will generally be short-term and individualized. Where the most appropriate resource is another institution, referral to that resource should be made.

- Provide technical assistance to projects, including on-site assistance. In some cases, it will be more appropriate for the Centers to come to

a Career Teacher site than to have the Career Teacher(s) come to them to provide assistance. Similarly, it may sometimes be more cost-effective for the Centers to provide specialized assistance than to train a Career Teacher to carry out the effort alone. For example, help might be provided to a Career Teacher establishing a clinical facility; a nutritionist or other specialist might be made available to train staff on-site for a day. On-site assistance should generally be short-term and respond to specific, well-defined needs.

.. Collect, catalog, and disseminate curriculum materials and other Career Teacher Products, on an ongoing basis. Career Teachers should have access to each other's products, particularly curriculum materials which may be modifiable to fit the needs of other institutions. By making the availability of such products known, the Training/Resource Centers will be able to help new Career Teachers minimize the time they spend in development of new basic curriculum, thus minimizing duplication of effort.

.. Develop specific materials to assist Career Teacher projects. As in the past, some Career Teachers needs can be met by disseminating materials to most or all projects; for example, the current Career Teacher Handbook. Guidelines for developing particular types of curriculum, a manual on survey procedures, suggested methods for assessing student response to new kinds of clerkships -- these kinds of materials could be developed in response to particular Career Teacher needs.

.. Provide specialized short-term training sessions. Some training needs may be general enough to warrant one-time or periodic short-term training sessions. For example, a session on curriculum development skills or one on clinical project assessment might be

helpful. Such sessions should be developed and run by a Training/Resource Center, and might be run from several convenient regional locations where there is wide interest. Such training should be open to applicants and non-Career Teacher institutions as well as present and former grantees.

.. Coordinate Career Teacher meetings. This should not take a major amount of time, but is a significant Center role.

.. Plan and coordinate Sponsor meetings. Special meetings for Career Teacher Sponsors -- and perhaps for other faculty participating in a project -- should be planned and implemented at least annually. An initial meeting might focus on the Sponsor role and provide some substantive information on developments in substance abuse research, clinical practice, and teaching. Later meetings might deal with issues raised by the Sponsors. Sponsor meetings might best be coordinated with Career Teacher meetings, including some separate and some joint sessions.

.. Encourage joint activities by Career Teachers to benefit individual institutions and the field. Among the most valuable contributions of the Centers has been the sponsorship of joint activities by groups of Career Teachers which generate products of use not only to individual institutions but also to the field -- such as questions for the medical boards. The Centers should be encouraged to develop and coordinate such joint activities, on both a national and regional basis. They should be encouraged to suggest areas in which cooperation would be beneficial, and to work with Institute personnel to identify gaps in the program which might be met through cooperative activities.

.. Establish interdisciplinary teams for special projects. If some particular product -- such

as a curriculum package -- is identified as needed, and it does not seem feasible for the need to be met by a group of Career Teachers, the Centers should be able to establish an interdisciplinary team including Career Teachers and other experts in order to meet this need. The Centers should develop lists of resource specialists in the substance abuse field who can be called upon as needed for such efforts.

.. Serve a "brokerage" function to help Career Teacher projects locate needed resources and assistance. As a resource center, each Center should be prepared to respond to any reasonable request for assistance from the grantee, calling upon its own resources and locating outside assistance where necessary.

. Carry out the following program coordination roles:

.. On request from the Institutes, carry out needs assessments to help determine project needs. Such assessments would involve surveys of current and former Career Teachers to determine their needs for training, information services, technical assistance, and teaching or curriculum development aids. They would also include surveys of non-participating schools to determine whether any of these or similar services could be used in the absence of a Career Teacher grant to increase or improve substance abuse education.

.. Develop a quarterly report format for use by all Career Teacher grantees. Quarterly reports should not require much time or effort to complete and should request standardized information as well as narratives on Career Teacher activities. Career Teachers should be given the report format at the beginning of their grant, so that they may routinely collect the data which must be reported. The format should periodically be reviewed with Career Teachers to determine whether or not it captures what they feel are the important aspects

of their project. It should also meet the information needs of the Training/Resource Centers and the Institutes.

- Receive and review submitted reports, and prepare quarterly summaries for the Institutes. A procedure for aggregating the information required by the quarterly report form should be established in advance, so that summaries may be prepared soon after the end of each quarter.

- Carry out special research and evaluation projects. These might include annual medical student surveys, annual assessments of Career Teacher projects, or special studies of interest to the Institutes or Career Teachers. Evaluation

- Do Career Teacher follow-up. Regular mail and telephone follow-up of former Career Teachers, Sponsors, and institutions should be carried out to determine long-term project effects and impacts.

- Involve former Career Teachers in ongoing program activities, through:

  - Providing funds for travel to Career Teacher meetings, where institutional funds are not available and the former Career Teacher can make a substantive contribution and benefit in ways which are consistent with program objectives. Participation is particularly important for those who remain on medical school or other institutional faculties and continue to be active in the field of substance abuse.

  - Using former Career Teachers as resource people for Career Teacher meetings, joint activities, and technical assistance efforts.

Former Career Teachers should be involved in the training of new Career Teachers and in technical assistance efforts. In addition to their knowledge of drug and alcohol abuse, they possess a special knowledge of what is involved in introducing substance abuse into the curriculum of a professional school. Those who remain as educators will continue to amass experience in the teaching of substance abuse. Others may obtain new perspectives on working in the substance abuse field in clinical, research, or regulatory positions and can identify those aspects of their new roles which should be of use to medical students studying substance abuse. Those who have been involved in special efforts while serving as Career Teachers, such as the development of evaluation procedures for substance abuse education or designing a clinical service program for special populations (the aged, youth), can serve as special resources for new Career Teachers.

- Provide information services on request to non-Career Teacher institutions concerned with medical education in substance abuse and related issues. Some health education institutions without Career Teacher grants are concerned with curriculum development and other substance abuse activities. The Centers should encourage such institutions to request information and materials from them. For example, curriculum packages developed by the Career Teachers should be disseminated to other schools of medicine and osteopathy or other health care institutions. The Institutes might consider a special program through which one of the Centers would survey the non-Career Teacher institutions to determine their need for and interest in such materials, and make them available on a broad scale as well as to individuals on request. This kind of activity will help make the tangible products of the Career Teacher Program available to all interested health professional education institutions -- and increase the impact of the program on the "field." This can contribute significantly to Institute goals regarding increasing the capability of the health care delivery system to deal effectively with the problems of addiction.

- Seek additional NIDA and NIAAA grants and other public and private funds for compatible projects. While other funding should not be a requirement, Centers should be encouraged to seek grants for compatible projects, thereby increasing their capability and resources.

- Coordinate activities with the NIAAA research centers and NIDA resource centers. Duplication of effort should be avoided and exchanges of materials should be maximized between the Career Teacher Training/Resource Centers and the other support centers funded -- for different purposes -- by both NIAAA and NIDA.

3. Implications for Career Teacher Project Grantees

Based on the recommendations offered for NIAAA/NIDA and the Training/Resource Centers, the responsibilities and activities of the program grantees would be changed significantly. The following roles and activities for the grantees are projected:

- Before preparing a formal application for a Career Teacher grant, potential applicants should:

  - Consult with the Institutes and a Training/Resource Center to learn about the program. Institute officials would provide information about program policies and guidelines, and Center personnel would clarify program scope and describe the application process.

  - Assure that the institution and potential Career Teacher objectives and priorities are compatible with NIAAA/NIDA guidelines and priorities. If the proposed project emphasis is not acceptable to the Institutes, then this should be determined before an application is prepared.

- Assure proposed Sponsor willingness for ongoing administrative and substantive participation in the project. If the institutional representative who is investigating the possibilities for a grant is not the potential Sponsor, then it will be important for him or her to identify a potential Sponsor who will meet Institute requirements and be supportive of the efforts of the proposed Career Teacher(s).

- Establish institutional commitment in terms of in-kind match, etc. Again, the institutional representative may or may not be able to personally assure such commitment. If not, he or she should investigate this issue, to be sure that the school will be able to meet Institute requirements and provide a supportive environment for Career Teacher efforts. If the applicant seeks funding for a project involving a Career Teacher team, institutional and Sponsor commitment are particularly important, since the administrative and supervisory responsibilities become more complicated.

- Consider various structural models. Communicate with other departments, other schools within the university, and other area schools to determine what project model is most appropriate to meet institutional needs and provide valuable outcomes.

In preparing a formal application for a Career Teacher grant, the applicant should:

- Determine the relative emphasis to be placed upon education/teaching, clinical practice, and research. Specifying the focus of the project effort will help avoid an overly ambitious or overly broad effort. A shift in focus resulting from early grant experiences should be discussed with Institute personnel

.. Develop local project objectives compatible with Institute objectives but reflecting the local focus.

.. Determine the most appropriate structural model for meeting project objectives. Whatever the model decided upon, appropriate arrangements will be needed with all significant participants -- including written commitments from proposed team members, Sponsors, and other participants at each institution or in each department.

.. Develop a project work plan, including activities, milestone dates, and measurable outcomes. The work plan should be viewed as a clear statement of what the Career Teacher(s) and other participants will do and how they expect to accomplish project goals -- not as a general statement of intent. It should be specific enough to assure that productive activities can begin immediately after grant award.

.. Identify an additional faculty member or members with the same general focus (teaching, clinical practice, or research) as the Career Teacher, within the same department if possible. Arrange to keep this individual informed about project progress and products, and plan for continued substantive involvement if possible. This arrangement is particularly important in schools with little present substance abuse activity, since it provides an individual who should be capable of continuing key Career Teacher activities if the Career Teacher(s) should leave after the grant period. (Past and present Career Teachers

have indicated in some cases that the curriculum they have developed and now teach would not be continued if they left the school, because no one else would be available who could teach the courses.) One of the projects studied has made a conscious effort to have another faculty member work closely with and complement the efforts of the Career Teacher.

- Obtain Training/Resource Center assistance, review, and advice during the grant application process. There may be a need for additional consultation with Institute personnel as well. Training/Resource Center help should be extremely valuable in assuring an application which is appropriate in format and content.

- Following grant award, Career Teacher grantees should:

  - Use Training/Resource Center capabilities for Career Teacher training/education and for other project support. This is particularly important during the first grant year, before the Career Teacher is acquainted with many other Career Teachers or fully familiar with project activities.

  - Have the Career Teacher(s) and Sponsor attend meetings and participate in other joint activities. Applicants may also attend these meetings. Most grantees should take advantage of joint activities to become familiar with other program activities, develop cooperative relationships with other grantees, and obtain information and materials of value to their projects.

  - Provide curriculum materials and other products to the Training/Resource Center for cataloging and dissemination. This is an ongoing responsibility for all grantees, so that other projects and schools can benefit from their work.

  - Follow their approved work plan, and inform the Institute monitor promptly of the need for any significant changes. The monitor should make clear the importance of the work plan before

the grant award, and there should be clear requirements for written revisions and Institute approval upon changes in project scope.

.. Carry out or arrange for a project assessment each year. In addition to regular program evaluations, such as the one reported here, which the Institutes or Training/Resource Centers may conduct, there is a need for an annual review of each Career Teacher grant. A formal evaluation may not be needed, but some "outside" look at the project should be provided, to determine what changes should be made in the project scope or activities in the coming year and to support applications for continuation of the grant.

Career Teachers may arrange to assess each other's activities, using a format developed jointly, with Training/Resource Center support; or the Center might be asked to do the assessment. Project documentation could be discussed with the Career Teachers at a special one-day session following a Career Teacher conference or by mail and telephone. A site visit might be made to each project once during the duration of the grant, so that others at the Sponsoring institution might be interviewed. It is important that this assessment be performed at the end of each project year, including the final one, so that aggregate data from the assessments can be used for program planning purposes.

However, the assessment is conducted, it should include a determination of progress towards local objectives, an assessment of the extent to which milestone dates have been met, an identification of constraining factors, as well as recommendations for strengthening the project and overcoming identified obstacles. It might also include a determination of the extent to which the project is meeting the needs of the sponsoring institution. After discussing the findings and recommendations with the project reviewers, a Career Teacher should prepare a written response to the assessment, including a plan for corrective action, for approval by the Institutes.

4. Synthesis of Recommendations

In its first five years, the Career Teacher Program has been successful in increasing the number of substance abuse hours to medical schools. It has also brought 13 medical educators into the substance abuse field and allowed others to increase their activity in this area. The Program has demonstrated that joint NIAAA/NIDA administration can be appropriate and productive. A significant gap, however, has been a sharply focused definition and direction to ensure continued success. It has also been limited to medical school, although it was originally intended to have a broader impact.

CONSAD recommends that the program be continued, although no recommendation is made regarding the total number or total dollar amount of grants to be made. While there may be some minimum number of active grants necessary to provide mutual support or sufficient talent for joint efforts, or some maximum beyond which the cameraderie which now fuels many Career Teacher activities ceases to exist, each grant yields more or less the same degree of positive outcome, i.e., curriculum changes at one school or the personal development of one individual. The scope of the program is, therefore, dependent on NIDA and NIAAA budgets and the priority given to these outcomes by the Institutes.

The primary recommendation for action is for the Institutes and those receiving the grants to become more specific and intentional in their activities. In some ways, the program is "working in spite of itself." The various NIDA and NIAAA staff members are unclear as to program objectives and the degree to which Career Teachers' activities are meeting these objectives. The Institutes should jointly determine what the Career Teacher Program is intended to accomplish in the long-run and what individual Career Teacher grants should accomplish, and assign priorities to these goals and objectives.

An active and continuing effort should be made to communicate program priorities to Career Teachers and applicants, and a specific response should be expected in return. Each grant application should indicate intended milestones and outcomes in specific terms and should propose individuals and activities most appropriate to these objectives. This emphasis on the quality of the application requires that the Institutes and Training/Resource Centers provide more assistance to those preparing grant applications.

The need for redefinition also applies to the Training/Resource Centers. They have gradually acquired a number of non-training functions, so that they now function more as Resource Centers than Training Centers, yet no attempt has been made to define what the roles of a Resource Center should be. Once a full and complementary range of

activities has been established through needs assessment surveys and negotiations between the Centers and the Institutes, these should be allocated to the Centers, and a workplan developed specifying agreed upon activities and schedules.

CONSAD further recommends that the Career Teacher concept be expanded to incorporate alternative grant models. This recommendation is based on two assumptions: (1) that some grants could have made more of an impact if more individuals were involved; and (2) that all schools preparing students for work in human services (e.g., social work and psychology, as well as public health, osteopathy, and medicine) could benefit from the Career Teacher Program, because these students will all work with people with alcohol- and drug-related problems. Implicit in this recommendation is the need to match grant models to institutional needs and capabilities, develop procedures for reviewing proposals from interdisciplinary or multi-university teams, monitor a variety of grant types, and equip Training/Resource Centers to meet the needs of non-medical Career Teachers. Implementing the recommendation will require an expanded outreach program which includes maintaining contact with representatives from osteopathic and non-medical schools, publicizing the program through the professional journals and meetings of these other fields, alerting those in medical schools to the possibilities for cross-disciplinary and interdisciplinary

projects, and referring applicants to other schools in their geographic area which might join in a project team. Career Teacher teams would, in many cases, benefit from including one or more people with substantial substance abuse expertise. For this reason, a broadening of the requirements to allow Career Teachers with prior expertise is also recommended. The experiences of a few Career Teachers and of other Federally funded projects indicate that a broader impact is possible through broadening of the program.

Additional flexibility is recommended in the length of the grant and the total amount of funding. These recommendations are based on the need for such flexibility to accommodate the additional grant models and on program experiences which indicate that the current strict guidelines on these elements are not always appropriate.

Additional recommendations focus on increasing the "institutional capital" generated by the grants. To increase the likelihood that Career Teacher activities become institutionalized, CONSAD recommends increased Sponsor involvement including special meetings for Sponsors, the identification of additional faculty to work with and continue the Career Teacher's work, additional funding to encourage participation by the Sponsor and others, and stronger evidence of institutional commitment. Because Career Teachers are young and mobile, continued substance abuse activity is dependent upon others at

the sponsoring institution. However, because the grant does contribute to the personal development of the Career Teachers, the Institutes should consider the effect of refusing grants to those institutions not evidencing commitment, in terms of overall Program goals.

Finally, CONSAD recommends a number of measures designed to increase accountability. These include: regularly monitoring through the use of quarterly report forms to be summarized by the Training/ Resource Centers; the use of work plans carefully delineated for the Centers and the Career Teachers; annual self-assessment; and a more active role for grant monitors.

These recommendations should help the Career Teacher Program and its individual grantees build upon their strengths and successes to extend program effects and impact far more broadly within the medical and health education community.

APPENDIX 1: Origins and Growth of the NIAAA/NIPA Career Teacher Program, 1971-1976

I. INTRODUCTION

This report, which describes the origins and growth of the NIAAA/NIDA Career Teacher Program, was prepared by CONSAD Research Corporation as background for an evaluation of the Career Teacher Program. It relies on information obtained primarily through interviews with Dr. Leonard Mitnick, Ms. Jeanne Trumble, and Dr. Ellen Ferris of NIAAA, and Dr. Richard V. Phillipson, Dr. Lonnie E. Mitchell and Mr. James F. Callahan of NIDA, and a review of original and revised grant announcements and guidelines. Other inputs and insights were obtained through a grant file review and initial planning visits to the SUNY Downstate Medical Center Career Teacher Training Center and three Career Teacher projects; Career Teachers Dr. John Fryer of Temple University, Dr. John Morgan of the University of Rochester, and Dr. John Severinghaus of Columbia University provided helpful perspectives and information.

II. ORIGINS OF THE CAREER TEACHER PROGRAM CONCEPT

Early in 1971, individuals at both the federal alcoholism and the federal drug abuse institutes, aware of the impact which physicians' attitudes and practices have on the problems of alcohol and drug abuse, began to look for ways to directly reach and affect the medical community. At NIDA's forerunner agency (The Division of Narcotic Addiction and Drug Abuse, NIMH), Dr. Richard Phillipson saw the new authorization of funds for training grants to qualified degree-granting programs as an opportunity to fund medical school faculty members for further training in drug abuse and addiction. By preparing one senior faculty member at each school to provide leadership in the drug field, the Division could potentially increase the amount of medical school curricula and continuing education in this area. There were hopes expressed at the time (although never incorporated in the program's goals and objectives) that this would lead to increased awareness of drug abuse among practicing physicians and possibly change the prescribing practices of the medical profession. The "Career Teacher" title was borrowed from a successful NIMH program of the same name which supported individual phychiatrists through a similar funding mechanism, but with dissimilar goals. Dr. Phillipson's conception of the program was accepted by the Division Director, Dr. William E. Bunney, Jr.

Dr. Bunney shared the idea with the Director of NIAAA, Dr. Morris E. Chafetz, who, with his staff, had been looking for ways to change physicians' attitudes toward alcoholism as a means of improving the quality of services to affected populations. They viewed increased knowledge of alcoholism as the means to improve the attitudes of primary care physicians. While making a strong impact on the continuing education of these practicing physicians did not seem feasible, changes in the medical schools would immediately reach new physicians and eventually the older ones. The Career Teacher Program appeared to be one way to quickly impact on medical schools, by stimulating curriculum changes and other activities through the personal development of one faculty member in each school. Moreover, by working together, the two Institutes could reach more schools, avoid any apparent or real conflict between drug and alcohol activities in the schools, and promise a degree of stability in continuing funds.

Before the two Institutes could begin awarding grants, they needed to settle two issues: the length of the grant and the need for training centers. The Division of Narcotic Addiction and Drug Abuse (DNADA) personnel felt that the grants should be for one year of training to prepare the Career Teacher to take a leadership role in drug and alcohol curriculum development. NIAAA sought three years of funding -- one or two years of training followed by one or two years of support which would free

the Career Teacher to work on curriculum development without other commitments. The public announcement initially specified a two year award but this was increased to three years at Dr. Chafetz' request. The need for Career Teacher Training Centers was also disupted, with NIAAA opposed (on the grounds that medical faculty members could make their own training arrangements) and DNADA in favor of up to six centers to provide special training to as many as 60 Career Teachers who might be active at one time. DNADA funded two Training Centers (there was insufficient demand to support another) which offered their services to NIAAA-funded Career Teachers as well as Division-funded Career Teachers.

Both Institutes arranged to alternate funding of individual Career Teacher projects -- with each funding half the projects -- as an alternative to the more administratively difficult route of joint funding, and prepared to advertise the availability of the grants. Jointly signed letters were sent to the Deans of all schools of medicine, osteopathy and public health and to the chairmen of the most relevant departments (Psychiatry, Internal Medicine, Pharmacology, etc.) Announcements were sent to all State Alcoholism Authorities and to many journals and newsletters in the substance abuse field. Interested institutions were invited to apply by February 1, 1972 for the first Career Teacher and Training Center grants.

III. EARLY EXPERIENCES

Approximately twenty applications were received in response to the initial Career Teacher announcement. To review these, the two Institutes established an ad hoc review committee of experts in the drug and alcohol field, apart from the regular committee which reviewed large-scale training programs but miss the finer points of selecting the appropriate Career Teacher for a particular institution.

During the first review, the committee looked for Career Teacher applicants who fit into the "milieu" of the sponsoring school, individuals who had or were likely to gain respect and influence within their departments and among other faculty members. Appropriate medical school support and sponsorship of the Career Teacher were emphasized, as was the proposed self-training program, which might include several formal training experiences and visits to selected research and treatment centers as well as time at the Training Centers.

Eight Career Teachers were selected from this first group. One chose not to accept the award. The first six Career Teachers began their projects in July, 1972, with the seventh following in September. Of these, three received their funds from NIAAA and four from DNADA. In January of the next year, each of the Institutes funded another applicant, bringing the total for the program's first year to nine Career Teachers at approximately $40,000 each per year (including salary, travel, part-time secretary, supplies and other costs).

At the second review, six Training Center applications were received; three of these were approved. During the first year, DNADA awarded approximately $100,000 to each of two Training Centers -- Baylor College of Medicine, funded in September, 1972, and the SUNY Downstate Medical Center, funded in March, 1973. (The third one was never funded.) Attendance at these Centers was quite low the first year; Career Teachers were not prepared to leave their families and positions for several months at a time, and the Training Centers had been established to provide structured sessions lasting three months or more. The Training Centers revised their programs and plans to some extent, and NIDA* decided that interest did not warrant a third Training Center. For training in teaching methods, Career Teachers also had the option of visiting the then-existing Center for Educational Development at the University of Illinois.

Despite the difficulties in getting the Training Centers started, the early Career Teacher grants soon began to show results. The first grant recipients received training and began to develop curricula in substance abuse. These events met the Institutes' expectations, but those administering the program were also surprised and pleased to

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*The Division of Narcotic Addiction and Drug Abuse became the National Institute on Drug Abuse (NIDA) in 1973, and began to assume expanded programming responsibilities.

note that the Career Teachers were extending their drug and alcohol knowledge to reach non-medical students, staff of teaching hospitals, and community treatment program personnel.

IV. THE GROWTH OF THE CAREER TEACHER PROGRAM

A. Objectives and Guidelines

The structure of the Career Teacher Program and the guidelines for applicants have been refined but not changed significantly since 1972. As originally stated (See Appendix A), the purpose of the program was to "provide support to every medical school and school of public health in the country for the advanced training of a faculty member who will provide leadership in the education of the professional school's students in the fields of narcotic addiction, drug abuse and alcohol abuse." The non-transferable grant could be awarded to any School of Medicine, operational developing Medical School, College of Osteopathy or School of Public Health to support "the best qualified faculty member," who was required to have full faculty status and a "health professional degree in the clinical sciences." The application was to describe the sponsoring institution, the current drug and alcohol abuse curriculum and the need for a Career Teacher, and to propose a one to three year plan to prepare the nominee to "design curriculum for medical and other students and provide the university and faculty with consultation in the treatment, education, prevention and research aspects of this major problem area."

When the guidelines were rewritten in December of 1974 (See Appendix B), the program purpose was restated more specifically: "to improve the training medical students receive on drug abuse and alcohol abuse by increasing the number and knowledge of academic faculty in medical schools in these areas and by developing regular courses of instruction on these major health problems, and in continuing education programs for doctors." The grant period was increased to three years; the degree requirements were broadened to include related health professional degrees; and letters of support from the Dean and department heads were required. The Career Teacher was required to include three months or longer of training at or under the auspices of one of the Training Centers, and the sponsor, as well as the nominee, was required to submit a curriculum vita. Beyond these refinements, there were no other changes to the guidelines; however, a checklist was added to aid applicants in preparing the application. A second revision of the guidelines (See Appendix C) was published in December of 1976. The only significant change was the elimination of the requirements for Training Center participation; Career Teachers are now advised to develop their training plan "in collaboration with one of the Training Centers or a Career Teacher."

B. Program Administration

NIDA (and its forerunner division within NIMH) and NIAAA have attempted to administer this program jointly from the start. To avoid the difficulties of transferring or pooling the funds, they have each funded half the Career Teachers, but preparations of guidelines, review of applications, site visits and general communications have been undertaken jointly.

At NIDA, administration of the program has been the responsibility of one individual, Mr. James Callahan, since the very early months of the program, when Dr. Lonnie Mitchell, Training Chief, transferred it to him. At NIAAA, responsibility was transferred from Dr. Leonard Mitnick to Dr. Ellen Ferris in 1975, and then to Ms. Jeanne Trumble in 1976. At both Institutes, those who have served as program administrators are still on the staff and remain concerned with the program.

The Career Teacher applications were divided evenly between the Institutes the first year and each Institute funded half of the total awards. In the second funding year, however, NIAAA's funds were insufficient to cover the cost of the program, so NIDA picked up almost all new Career Teachers that year. By the next year, however, the release of NIAAA's impounded funds made NIAAA the "wealthier" Institute, and by the middle of that year each was again funding half

the active grants. After the June, 1975 session, the joint Ad Hoc Committee was disbanded and NIDA's Drug Abuse Review Committee assumed responsibility for reviewing applications. In October 1976, each Institute began reviewing Career Teacher applications. This procedure has continued through 1976 by having the Division of Research Grants, NIH, send alternate applications to each Institute for primary review responsibility. Following the review (done jointly), the approved application changes hands only if special circumstances warrant this.

Review is now done by the chartered training review committees at each Institute, employing some of the past reviewers (and other experts) as consultants when needed. Site visits, when conducted, usually include staff from both Institutes, and all applications are reviewed by both committees. The decision to approve or disapprove an application remains with the Institute designed by the Division of Research Grants. This review procedure is lengthier than the earlier one -- the time required has increased from five months in the first round of applications to between nine and twelve months currently. However, as a result of new proposal preparation procedures which call for consultation with one or both Institutes and a Training Center, fewer applications are returned from additional development after review, so that the total time between application and award has not increased as greatly as it might have.

With experience in the program has come a refinement in the review. Reviewers now emphasize (1) the nominee's professional background and training, (2) current status of alcohol and drug abuse curriculum at the school, and (3) the individual training plan proposed, as well as (4) indications from the nominee's statement and letters of support that this individual will be able to make an immediate and long-term impact on the school and the field.

C. Career Teachers

The initial group of seven Career Teachers had grown to 24 active (i.e., current funded) and 40 total Career Teachers by the end of 1976. Only five have terminated their grants before completing three years in the program, three because they left the sponsoring institution. A sixth left the program, but the grant was transferred to a new faculty member with NIDA approval.

Since the start of the program in 1972, only nine applications have been disapproved; another five, conditionally or fully approved, were never funded, either because the applicant withdrew or, in the case of the only school of public health ever approved, because a low "priority score" and limited Institute funds prevented an award. No school of osteopathic medicine has applied.

Publicity of the grants continues in medical and substance abuse journals and newsletters and through relevant professional associations, and interest in the grants is increasing. Since June of 1976, ten applications have been received; two of these were approved recently, and the remainder are still under consideration.

One of the issues which has emerged over the first four and a half years of the program has been the degree of sponsor involvement. As originally conceived, the sponsor, usually chairman of the Career Teacher's department, was to assume an active role in the development of this individual, although this role was not clearly defined. Institute personnel feel that the role of the sponsor in Career Teacher institutions is critical and should be developed further.

Based on a review of their continuation applications and upon Institute communications with the Career Teachers, it appears that the Career Teachers have been involved in teaching, curriculum development, research and treatment, and most have served as a community resource, lecturing, consulting and establishing inservice training programs. Data available at Downstate Medical Center indicate an increase in curriculum hours, required and elective, devoted to substance abuse in medical schools with a Career Teacher. Career Teachers have also reported an increasing level of joint activity -- co-authoring texts, consulting and lecturing at each others'

schools, working together to prepare curriculum objectives and text items. A professional association of Career Teachers has been developed, largely prompted by the Career Teacher conferences.

D. Training Centers

To date, there have been eight conferences sponsored by the Training Centers; an ninth is planned for June 8-9, 1977. The first of these conferences, in December of 1973, marked a turning point in the Career Teacher program. Disturbed at the structure and non-interactional nature of this first conference, a group of the Career Teachers walked out, caucused, and returned with demands for a revised agenda which would allow the participants to meet and work and talk with each other about their job as Career Teachers. Since that time, the experiences of the conferences have led the Career Teachers to work together within and outside the conferences, share information, and strive to make a strong impact on the field of substance abuse. One of the many outcomes of this movement has been AMERSA, the Association of Medical Educators and Researchers in Substance Abuse, which welcomes current and former recipients of Career Teacher funds as members and aims to support and encourage their continued work in the field. A second has been a contract, between NIDA and the National Board of Medical Examiners, to

provide substance abuse items for the undergraduate Board examinations, specialty boards and the proposed Comprehensive Qualifying Exam. This contract evolved through the work of a group of Career Teachers who will provide the "secure" questions to the National Board and a second set of similar, but "non-secure", items to medical educators.

The conferences, largely the work of the Downstate Training Center, are part of the changing role of the Training Centers. Attendance at the Centers by Career Teachers has increased. Baylor now offers fairly structured one month (or longer) instructional programs to Career Teachers and other medical educators, while Downstate offers a more individualized program drawing on the treatment and research resources of the Medical Center and the New York City area. Baylor is viewed as focusing more on rural treatment programs, while at Downstate emphasis is predominantly urban.

In addition to their training role, the two Centers have added conferences and their services as "training advisors" in response to demands from the Career Teachers. One or both of the Centers now consult with each applicant on his or her training plan. (All applicants are also required to consult with Mr. Callahan or Ms. Trumble, resulting in very few applications which are incomplete or come from ineligible or inappropriate applicants.) Throughout the grant, the Training Centers advise the Career Teachers on training opportunities,

independent study or research plans, exemplary programs and other Career Teachers with shared interests. Each Center has also carried out some evaluation of the program; the Baylor Training Center has also surveyed the state of substance abuse curriculum in schools of medicine, dentistry and nursing and in programs for physician's assistants and nurse practitioners.

V. SUMMARY

From its inception in 1971 through 1976, the Career Teacher programprovided grants to 39 medical schools; three other schools have recently had grants approved, and eight more are pending. More than half of all U.S. medical schools have applied for a Career Teacher grant.

As this report suggests, there have been few major changes in program policies or guidelines since program inception. However, the program has been refined with experience, the Training Centers' roles and responsibilities have been modified, and some changes have been made in NIAAA/NIDA review and selection procedures.

This origins and growth report was prepared to provide a basis of understanding to be built upon during program evaluation efforts, which will provide information concerning many quantitative and qualitative program outcomes and short-term impacts, and the facilitating and constraining factors -- within the medical schools, Career Teachers, and NIAAA and NIDA -- affecting these outcomes. Based on such evaluative data as well as an understanding of how the program has evolved, CONSAD should be able to recommend alternative approaches or program modifications to improve goal attainment.

APPENDIX A: Original Career Teacher Program Announcement and Guidelines

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
HEALTH SERVICES AND MENTAL HEALTH ADMINISTRATION

NATIONAL INSTITUTE OF MENTAL HEALTH
5600 FISHERS LANE
ROCKVILLE, MARYLAND 20852
AREA CODE 202 TEL: 655-4000

It is the intention of the National Institute of Mental Health (NIMH) within the Department of Health, Education and Welfare to provide support to every medical school and school of public health in the country for the advanced training of a faculty member who will provide leadership in the education of the professional school's students in the fields of narcotic addiction, drug abuse and alcohol abuse.

This program is a joint effort of the National Institute on Alcohol Abuse and Alcoholism and the Division of Narcotic Addiction and Drug Abuse and has a high priority in both elements of NIMH. The NIMH enlists your personal cooperation and collaboration, and asks that you sponsor the application of the best qualified faculty member in your institution to whom a Career-Teacher grant may be awarded.

The grant is designed to enable the selected faculty member to devote a minimum of one year (12 months) to a maximum of three (3) years in order to gain further knowledge in the field of addiction. During the training period the appointee will be expected to assume the leadership role in his institution in the field of addiction. Specifically, he should be prepared to design curriculum for medical and other students and provide the university and faculty with consultation in the treatment, education, prevention and research aspects of this major problem area.

In order to assist you in your planning, a timetable is presented below indicating significant dates and events.

Deadline for Filing Application	Review Committee	National Advisory Council	Earliest Funding Date
February 1	April	June	August
June 1	September	November	January
October 1	January	March	May

We are enclosing additional details on the program and an application kit. If you or your staff have any questions, please feel free to contact either:

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Chief, Training and Education Section
Division of Narcotic Addiction
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NIMH - Room 13A-44
5600 Fishers Lane
Rockville, Maryland 20852
(301) 443-2755

Dr. Leonard Mitnick
Assistant to the Director
National Institute on
Alcohol Abuse & Alcoholism
5600 Fishers Lane, Room 16-89
Rockville, Maryland 20852
(301) 443-2570

Sincerely yours,

William E. Bunney, Jr., M.D.
Director
Division of Narcotic Addiction
and Drug Abuse

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Enclosure

ACADEMIC CAREER-TEACHER AWARD IN

NARCOTIC ADDICTION, DRUG ABUSE AND ALCOHOL ABUSE

It is the intention of the National Institute of Mental Health (NIMH) within the Department of Health, Education and Welfare to provide support to every medical school and school of public health in the country for the advanced training of a faculty member who will provide leadership in the education of the professional school's students in the fields of narcotic addiction, drug abuse and alcohol abuse.

This program is a joint effort of the National Institute on Alcohol Abuse and Alcoholism and the Division of Narcotic Addiction and Drug Abuse and has a high priority in both elements of NIMH. The NIMH enlists your personal cooperation and collaboration, and asks that you sponsor the application of the best qualified faculty member in your institution to whom a career-teacher grant may be awarded.

Awards may be requested for a minimum period of one year (12 months) to a maximum of three years. The application should include a plan for the development of a faculty member in the areas of clinical treatment, prevention, education and research. The methodology for accomplishing these goals should be clearly delineated to include: the specific experiences for the Career-Teacher selected, the identification of the resources to be utilized in developing the training experience for the Career-Teacher and identification of the faculty member who will be ultimately responsible for coordinating and supervising the training program for the Career-Teacher.

The sponsoring institution will have the responsibility for nominating the applicant and submitting the application. The institution must insure the applicant adequate freedom and time necessary to carry out his development program within the addiction field.

Essential to the application is the institution's commitment to the development of training programs in preventing and combating alcohol and drug abuse and the responsibility of the nominated Career-Teacher for the development and implementation of the proposed program.

The nominee for the Career-Teacher Award is required to be a faculty member and be qualified to provide faculty leadership upon completion of training. If the nominee does not have faculty status at the time of application for this award, describe the school's intentions to offer the nominee a faculty appointment prior to the acceptance of the award.

Listed below is the general information required for this program. The details as reflected by the institution; the sponsor and the applicant should be typed in single space on continuation pages. Number pages consecutively with the rest of the application. This information is essential for consideration of the application and must be included.

I. BASIC REQUIREMENTS

A. APPLICANT AGENCY (SPONSOR)

The applicant agency must be a School of Medicine, an operational developing Medical School, a College of Osteopathy, or a School of Public Health.

B. THE APPLICANT (NOMINEE FOR THE CAREER-TEACHER AWARD)

Basic Requirements Include:

1. Faculty status within the sponsoring institution prior to grant award.

2. Hold a health professional degree in the clinical sciences.

II. SPECIFIC PROGRAM PLANS

The narrative portion of the application should include the following kinds of information:

1. A brief description of the institution, including any specialized curricula as it relates to community problems, e.g., Community Mental Health, Department of Psychiatry, medical problems in the ghetto, etc.

2. Plans for specialized curricula not yet operational.

3. The need as viewed by the institution for the Career-Teacher award in the addictions. Resources to be utilized by the career-teacher, i.e., a description of present or proposed cooperative relationships with facilities providing services to those with addictions.

4. A description of the current drug and alcohol abuse curriculum, if either /or exists in the institution.

5. Discussion of nominee's career ambitions; how the experience made possible by this award will affect nominee's plans to teach in the general field of narcotic addiction, drug and alcohol abuse.

6. Specific plans for the nominee of the Career Teacher Award. Describe program objectives and the activities and experiences that would accomplish these stated goals, e.g., indicate addiction programs or training centers to be visited; (include plans for each year of the proposed program).

7. Include curriculum vitae of the nominee for the career award.

III. PROVISIONS OF THE AWARD

A. Salary

The applicant will be provided a salary appropriate for the level of his academic rank at the grantee institution, not to exceed $25,000 annually from NIMH funds for the approved period. Supplementation by the institution may be provided.

B. Supplies, Travel, etc.

If requested by the applicant and approved by the reviewing committee, funds may be provided for supplies, equipment, travel, research and secretarial assistance. Such items must be explained in the application.

C. Indirect Costs

Actual indirect costs, or an indirect cost allowance of eight percent (8%) of direct costs, whichever is less, will be provided.

D. The Career Teacher Award will provide support for one calendar year and may be renewable on the basis of satisfactory development of the applicant and his institution's program. The Award is non-transferable. Awards will be limited to one (1) per institution.

In completing the enclosed application follow the instructions on pages 19-20 "Career Teacher Medical Application." Insert the initials NDA/ACC at the top of page 1 under the words "Training Grant Application."

IV. SUBMISSION OF APPLICATION

Please send signed original and six (6) copies of the application to the following:

CAREER DEVELOPMENT REVIEW BRANCH
DIVISION OF RESEARCH GRANTS
NATIONAL INSTITUTES OF HEALTH
BETHESDA, MARYLAND 20014

APPENDIX B: Revised Career Teacher Program Announcement and Guidelines

INSTRUCTIONS FOR APPLYING FOR SUPPORT
FOR AN
ACADEMIC CAREER-TEACHER AWARD

It is the intention of the National Institute on Drug Abuse and the National Institute on Alcohol Abuse and Alcoholism to provide support to every Medical School and School of Public Health in the country for additional training in the addictions so that leadership, advanced training, consultation and coordination in this field and, ultimately, the community at large may be provided.

In coordination with other interested departments (including such sections as family practice, postgraduate medical education, etc.) didactic coursework, seminars and workshops will become available to medical, nursing and behavioral science students, interns and residents enrolled in the various medical center programs and graduate physicians in the community. Consultation will also be made available to encourage treatment and research in the various aspects of addictive diseases.

The grant is designed to enable the selected faculty member to devote a minimum of two (2) years to a maximum of three(3) years in order to gain further knowledge in the field of the addictions.

During the training period, the appointee should prepare to assume the leadership role in his or her institution in the field of the addictions. Specifically, the nominee should be prepared to design curriculum for medical and other students and provide the university and faculty with consultation in the treatment, education, prevention and research aspects of this major problem area.

In order to assist you in your planning, a timetable is presented below indicating significant dates and events:

Deadline for Filing Application	Review Committee	National Advisory Council
February 1	June	October
June 1	October	February
October 1	February	May

We are enclosing additional details on the program and an application kit. If you or your staff have any questions, please feel free to contact Mr. James F. Callahan (NIDA) at 301-443-4922 or Dr. Leonard Mitnick (NIAAA) at 391-443-1056.

Enclosures

GUIDELINES

CAREER-TEACHER AWARD IN ADDICTION

The purpose of the Career-Teacher Award in drug abuse and alcohol abuse is to improve the training medical students receive on drug abuse and alcohol abuse by increasing the number and knowledge of academic faculty in medical shcools in these areas and by developing regular courses of instruction on these major health problems, and in continuing education programs for doctors.

It is the intention of the National Institute on Drug Abuse and the National Institute on Alcohol Abuse and Alcoholism to provide support to every Medical School and School of Public Health in the country for the advanced training of a faculty member who will educate the professional school's students in the field of the addictions.

The sponsoring institution will have the responsibility for nominating an applicant who will have impact on curriculum of the school; appointing a program director; and submitting the application. The institution must insure the applicant that he or she will be released from activities not directly related to his or her development as an academician and teacher. The applicant may continue to be involved in administrative committees within the department and medical center (such as education, research, etc.) which are appropriate to the role of a career teacher in addictions.

The application must include a detailed plan for each year of the development of a faculty member in the areas of clinical treatment,

prevention, education and research. The methodology for accomplishing these goals should be clearly delineated to include: the specific experiences for the career teacher selected, the identification of the resources to be utilized in developing the training experience for the career teacher and identification of the faculty member who will be ultimately responsible for coordinating and supervising the training program for the career teacher.

Essential to the application is the institution's commitment to the development of training programs in preventing and combating alcohol and drug abuse and the responsibility of the nominated career teacher for the development and implementation of the proposed program.

The nominee for the career teacher award is required to be a full-time, voting faculty member and be qualified to provide faculty leadership upon completion of training. A statement should be made about the nominee's tenure status. If the nominee does not have faculty status at the time of application for this award, describe the school's intentions to offer the nominee a faculty appointment prior to the acceptance of the award.

Listed below is the general information required for application of a career teacher award. The sponsor and applicant should type this information in single space on the continuation pages and number the pages consecutively with the rest of the application. This information is essential for consideration of the application and must be included.

I. BASIC REQUIREMENTS

A. APPLICANT AGENCY (SPONSOR)

The applicant agency must be a School of Medicine, an operational developing Medical School, a college of Osteopathy, or a School of Public Health.

The sponsor not the career teacher will be designated as the program director on the Face Page of the application.

B. THE NOMINEE FOR THE CAREER-TEACHER AWARD

Basic Requirements Include:

1. Faculty status within the sponsoring institution prior to grant award.
2. While it is desirable for the candidate to be a physician, any faculty member who holds a health professional degree in the health sciences or other helath related field, e.g., (M.D.,D.O., Ph.D.,Ed.D.) is eligible.
3. In the event the applicant is not a citizen of the United States and his stay may be limited by his visa status, the grantee institution shall determine and the application should indicate, that the individual's visa will allow him or her to remain in the country a sufficient length of time to be productive on the project.

II. SPECIFIC PROGRAM PLANS

The narrative portion of the application should include the following kinds of information:

1. A brief description of the institution, including any specialized curricula as it relates to community problems, e.g., community mental health, Department of Psychiatry, medical problems in the ghetto, etc.
2. Plans for specialized curricula not yet operational and how the new program will be integrated into the existing structure.
3. A description of the current drug and alcohol abuse curriculum, if either exists in the medical school, university, community and outside systems.
4. An indication of support of the program by the Dean of the institution and from appropriate department heads.
5. Discussion of nominee's career ambitions. How will the experience made possible by this award affect the nominee's plans to teach in the general field of narcotic addiction, drug and alcohol abuse and how will the nominee's objectives enhance his leadership in the general field of the addictions.
6. What are his plans after termination of the grant award. Describe program objectives and the activities and experiences that would accomplish the stated goals, e.g., indicate addiction programs or training programs to be

visited and give a detailed training plan, including training for three (3) months or longer at or under the auspices of one of the drug and alcohol dependance Career Teacher Training Centers.

The training plan should be developed in collaboration with one of the training centers and copies of the applicant's communication with the training center should attached.

7. Include curriculum vitae for Sponsor and Career-Teacher.

III. PROVISIONS OF THE AWARD

A. Personnel

1. The applicant will be provided a salary appropriate for the level of his academic rank at the grantee institution, not to exceed $25, 000 annually from the funds provided by the grant. Supplementation by the institution is acceptable and should be indicated in the application.
2. The grant will provide funds for a part-time secretary.

B. Supplies, Travel, etc.

If requested by the applicant and approved by the reviewing committee, funds may be provided for supplies, equipment, travel and research. Such items must be explained in the application. A breakdown of travel is requested.

C. Indirect Costs

Actual indirect costs, or an indirect cost allowance of eight percent (8%) of direct costs, whichever is less, will be provided by the grant.

APPENDIX C: Revised Career Teacher Program Announcement and Guidelines -- December, 1976

ACADEMIC CAREER-TEACHER AWARD IN
NARCOTIC ADDICTION, DRUG ABUSE AND ALCOHOL ABUSE

The purpose of the Academic Career Teacher Award in drug abuse and alcohol abuse is to improve the training medical students and others trained in medical schools receive on drug abuse and alcohol abuse.

It is the intention of the National Institute on Drug Abuse and the National Institute on Alcohol Abuse and Alcoholism to provide support to Medical Schools and Schools of Public Health for the advanced training of a faculty member who will educate the professional school's students in the field of the addictions and will develop a curriculum for the school in this field.

The applicant institution will have the responsibility to nominate a career teacher, appoint a sponsor and submit the application. The institution must insure the nominee that he or she will be released from activities not directly related to his or her development as an academician and teacher in the addiction field. The applicant may continue to be involved in administrative committees within the department and medical center which are appropriate to the role of a career teacher in the addictions.

A detailed plan, by year, must be submitted describing the development of the applicant in the areas of clinical treatment, prevention, education and research. The methodology for accomplishing these goals should be clearly delineated to include the specific training

experiences for the proposed career teacher, the identification of the resources to be utilized in developing the training experience and identification of the sponsoring faculty member who will be ultimately responsible for coordinating and supervising the career teacher's training.

Essential to the application is the institution's commitment to the development of training programs in preventing and combating alcohol and drug abuse, the responsibility of the nominated career teacher for the development and implementation of the proposed program and the institution's commitment to the development of a curriculum in the addictions.

The nominee for the career teacher award is required to be a full-time, voting faculty member and be qualified to provide faculty leadership upon completion of training. A statement should be made about the nominee's tenure status. If the nominee does not have faculty status at the time of application for this award, describe the school's intentions to offer the nominee a faculty appointment prior to the acceptance of the award.

Listed below is the general information required as part of the application for a career teacher award. This information should be typed in single space on any continuation sheets included with the

application. These sheets should be numbered consecutively with the rest of the application. Without the following information applications will not be considered for funding.

I. BASIC REQUIREMENTS

A. APPLICANT AGENCY (SPONSOR)

The applicant agency must be a School of Medicine, an operational developing Medical School, a college of Osteopathy, or a School of Public Health. The sponsor (not the career teacher) will be designated as the program director on the Face Page of the application.

B. THE NOMINEE FOR THE CAREER-TEACHER AWARD

Basic Requirements:

1. Faculty status within the sponsoring institution prior to grant award.
2. A professional degree in the health sciences or other health related fields.
3. In the event the applicant is not a citizen of the United States the grantee institution shall determine and the application should indicate that the individual's visa will allow him or her to remain in the country a sufficient length of time to be productive on the project.

II. SPECIFIC PROGRAM PLANS

The narrative portion of the application should include the following kinds of information:

A. A brief description of the institution, including any specialized curricula as it relates to community problems, e.g., community mental health, medical problems in the ghetto, etc.

B. Plans for specialized curricula not yet operational and how the new program will be integrated into the existing structure.

C. A description of the current drug and alcohol abuse curriculum in the medical school.

D. An indication of support of the program by the Dean of the institution and appropriate department heads.

E. Discussion of nominee's career ambitions. How will the experience made possible by this award affect the nominee's plans to teach in the general field of narcotic addiction, drug and alcohol abuse and how will the nominee's objectives enhance his leadership in the general field of the addictions?

F. A detailed assessment of nominee's training needs (clinical, didactic, research, teaching).

G. A detailed training plan to meet the needs identified above (F.). Indicate addiction programs or training programs to be visited and give a detailed training plan for each, including institution, training, instructors, length of training, cost, etc.

It is recommended that the training plan be developed in collaboration with one of the training centers or a career teacher. Copies of the applicant's communication with the training center or career teacher should be attached. (A list of Centers and Career Teachers is appended.)

H. Include curriculum vitae for Sponsor and Career-Teacher.

III. PROVISIONS OF THE AWARD

A. Personnel

1. The applicant will be provided a salary appropriate for the level of his academic rank at the grantee institution, not to exceed $25,000 annually from the funds provided by the grant. Supplementation by the institution in accordance with HEW criteria is acceptable and should be indicated in the application.

2. The grant will provide funds for a part-time secretary.

B. Supplies, Travel, etc.

If requested by the applicant and approved by the reviewing committee, funds may be provided for supplies, equipment, travel and research. Such items must be for training and development. A detailed description of travel is requested.

C. Indirect Costs

Actual indirect costs, or an indirect cost allowance of eight percent (8%) of direct costs, whichever is less, will be provided by the grant.

D. The Career-Teacher award will provide support for a minimum of one (1) and a maximum of three (3) years based on satisfactory development of the applicant and his institution's program. The award is non-transferable. Awards will be limited to one (1) per institution.

IV. CONSULTATION

Should you wish to discuss your application, you may call Mr. James Callahan (NIDA) at (301) 443-4922; or Ms. Jeanne Trumble (NIAAA) at (301) 443-1056.

A copy of the application should be forwarded to the Single State Drug Abuse Program Director and to the State Alcohol Authority.

V. RECEIPT AND REVIEW DATES

Application Receipt Dates	Initial Review Group	National Advisory Council
February 1	June - July	Sept. - Oct.
June 1	Oct. - Nov.	Jan. - Feb.
October 1	Feb. - Mar.	May - June

APPENDIX 2: Career Teacher Program Evaluation
Career Teacher Site Visits

CAREER TEACHER PROGRAM EVALUATION
Career Teacher Site Visits

NIAAA and NIDA have asked CONSAD to visit each of the 29 Career Teacher projects (current and completed) which had received funds for two years or longer as of the start of the evaluation. In most of these, the Career Teacher is still located at the sponsoring institution. The typical site visit to such projects will require approximately 1 1/2 days and will include interviews with the following individuals:

- The Career Teacher;
- The Sponsor;
- The Chairman of the Career Teacher's department, if other than the Sponsor;
- The Dean of the sponsoring medical school;
- The Chairman of the Curriculum Committee and any other individuals with substantial responsibility for the assignment of medical education hours in the Career Teacher's department;
- 5 - 6 undergraduate students, including those taught by the Career Teacher and one or two seniors with no exposure to substance abuse instruction;
- 1 - 3 interns or residents who have worked with the Career Teacher; and
- Any other individuals who have played a significant part in the training or substance abuse activities of the Career Teacher.

If the Career Teacher has done substantial work with community agencies, appropriate individuals in those agencies will be contacted by phone during the site visit. Any individuals who are unavailable at the school during the site visit will be reached later by phone or mail.

Where the Career Teacher is now teaching at a medical school other than the one which sponsored the grant, the corresponding individuals in the new institution will be interviewed. In addition, the Sponsor and, if necessary, someone who can provide the needed data on school structure and the curriculum design process at the sponsoring school will be contacted by phone and/or mail. Those Career Teachers who are now in research, treatment or administrative positions will be interviewed at the sponsoring school if they are still involved there; others as appropriate from the standard interview list will then be seen at the medical school. Career Teachers with no further medical school involvement will be interviewed at their offices; Sponsors and others will then be contacted by phone or mail or, if feasible, visited.

Topics to be covered with the Career Teacher and others during the site visit include:

- Institutional description - location, size, age, clinical affiliations, structure, curriculum decisions, allocation

of instructional hours, philosophy and perspectives, substance abuse activity, locus of influence/power,

- Career Teacher background - degrees, experience, faculty appointments, current affiliations, substance abuse knowledge, interest and involvement,

- Sponsor background - degrees, faculty appointments, current affiliations, substance abuse knowledge interest and involvement, involvement with the Career Teacher project,

- Career Teacher project activities and outcomes - goals and objectives, priorities, activities, training, training center activities, relationships with other groups, accomplishments, curriculum development, teaching, products developed, consultation, institutional changes, factors affecting outcomes,

- Career Teacher program perceptions - appropriate program goals, project objectives, and Career Teacher roles, recommended program changes,

- Attitudes toward medical education in substance abuse - changes in the attitudes of faculty in the department and throughout the school,

- Student data - attitudes regarding the treatment of substance abusers, substance abuse education, and teaching methods, comparisons among undergraduates trained by the Career Teacher, those without substance abuse training and residents supervised by the Career Teacher.

Career Teachers can facilitate the work of the evaluation team by preparing the following for the site visit (see cover letter):

- Career Teacher Substance Abuse Teaching Summary;

- A complete list of all curriculum developed, articles published, and other reproducible products developed during the grant, annotated to indicate availability to other medical educators;

- A list of names and addresses of nine trainees or students;

- The Downstate evaluation forms (if submitted to Downstate prior to the visit, evaluation team will have copy).